ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION
CA-680-05-81

Allotment Name(s): Pahrump Valley, Cady Mountain, Cronese Lake, Harper Lake, Rattlesnake Canyon, Ord Mountain, Valley Well, Round Mountain

BARSTOW FIELD OFFICE
APRIL 2006

BLM

Barstow Field Office

BLM/CA/GI-2006-015+1790+4120

ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION
CA-680-05-81

Allotment Name(s): Pahrump Valley, Cady Mountain, Cronese Lake, Harper Lake, Rattlesnake Canyon, Ord Mountain, Valley Well, Round Mountain

BARSTOW FIELD OFFICE
APRIL 2006

TABLE OF CONTENT

c. Cumulative
d. Consultation
e. Maps
f. References

D. Environmental Justice
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

E. Farmlands, Prime or Unique
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

F. Flood Plains
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

G. Invasive, Non-Natives Species
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

H. Native American Concerns
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative

d. Consultation
e. Maps
f. References

I. Recreation
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

J. Social and Economic Values
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

K. Soils
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

L. Waste, Hazardous or Solid
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation
e. Maps
f. References

M. Water Quality, Surface and Ground
1. Affected Environment
2. Environmental Consequences
a. Proposed Action
b. No Action
c. Cumulative
d. Consultation

- e. Maps
- f. References

N. Wetland/Riparian Zones
- 1. Affected Environment
- 2. Environmental Consequences
  - a. Proposed Action
  - b. No Action
  - c. Cumulative
  - d. Consultation
  - e. Maps
  - f. References

O. Wild and Scenic Rivers
- 1. Affected Environment
- 2. Environmental Consequences
  - a. Proposed Action
  - b. No Action
  - c. Cumulative
  - d. Consultation
  - e. Maps
  - f. References

P. Wilderness
- 1. Affected Environment
- 2. Environmental Consequences
  - a. Proposed Action
  - b. No Action
  - c. Cumulative
  - d. Consultation
  - e. Maps
  - f. References

Q. Wild Horse and Burros
- 1. Affected Environment
- 2. Environmental Consequences
  - a. Proposed Action
  - b. No Action
  - c. Cumulative
  - d. Consultation
  - e. Maps
  - f. References

R. Wildlife
- 1. Affected Environment
- 2. Environmental Consequences
  - a. Proposed Action
  - b. No Action
  - c. Cumulative
  - d. Consultation
  - e. Maps

CHAPTER 1: INTRODUCTION

A. Background

The analysis contained in the Final Environmental Impact Statement for the West Mojave Plan is incorporated by reference into the analysis contained in this environmental assessment.

In 2000, seven grazing leases (eight grazing allotments) for cattle and cattle/horses operations expired at the end of the 1999 grazing year (2/28/00). These seven grazing leases were renewed under the authority of Public Law 106-113. The duration of the grazing leases renewal varied by allotment based on factors that included rangeland health condition. Grazing leases ranged from three-year to ten-year terms, and contained the same terms and conditions as the expiring grazing leases. Public Law 106-113 required compliance with all applicable laws and regulations, which include the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Following the analysis of environmental impacts these grazing leases may be approved, canceled, suspended or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

On January 29, 2001 the BLM and a consortium of environmental groups enter into a stipulated agreement effective immediately, herein known as the "Settlement Agreement" for the management of livestock grazing. The Settlement Agreement prescribed areas of the Ord Mountain, Harper Lake, Cady Mountain, Cronese Lake, and Rattlesnake Canyon be excluded from cattle grazing in the spring and fall. In addition, it placed a cap on stocking rates for those allotments. Based on an April 25, 2002 amendment these stipulations are still in affect until the signing of the Record of Decision (ROD) for the West Mojave Plan Amendment (WMP) to the CDCA Plan. The ROD for the WMP was approved on March 13, 2006.

The Washington Office Instruction Memorandum 2003-071 requires that all grazing permits and leases that expired in 1999 and 2000 be "fully processed" by the end of Fiscal Year 2004 (9/30/04). The term "fully processed" permit/lease refers to the completion of an adequate environmental analysis and issuance of a proposed grazing decision in accordance with 43 CFR 4160, and appropriate consultation in accordance with the ESA.

On September 30, 2004 the Barstow Field Office (BFO) issued Proposed Grazing Decisions to the seven grazing lessees. The Proposed Decisions proposed that the seven grazing leases on the eight cattle/horse allotments be fully processed and renewed for 10 years, under the stipulations contained the Settlement Agreement.

In October, 2004 the U.S. Army purchased the base properties for the Harper Lake, Cady Mountain and Cronese Lake Allotments. The Harper Lake, Cady Mountain, and Cronese Lake Allotments would be eligible for voluntary relinquishment (VR).

On March 1, 2005 the grazing leases for the Ord Mountain, Valley Well, Round Mountain and Rattlesnake Canyon Allotments expired. Livestock grazing, if on-going is allowed to continue under provisions of the Administrative Procedures Act (APA).

The Bureau of Land Management (BLM) is proposing to issue a ten-year term length grazing leases on five allotments to authorize cattle/horse grazing on public land within the jurisdiction of the Barstow Field Office, and proposes to terminate grazing on three allotments through voluntary relinquishment (VR) (see Map 1). The five allotments proposed for grazing lease renewal encompass 201,788 acres of public land and 28,724 acres of private land. The three allotments where livestock grazing would no longer be authorized encompass 248,207 acres of public land and 71,467 acres of private land. The allotments are located in rural San Bernardino and Inyo Counties. Elevation range is between 2,300 and 6,300 feet. Vegetation communities are a mix of Creosote Bush Scrub, Mojave Mixed Scrub, Saltbush Scrub and Pinyon-Juniper Woodland.

B. Need for the Proposed Action

The proposed action is needed to authorize grazing in accordance with 43 CFR 4100 and is consistent with the provisions of the Taylor Grazing Act, Public Rangelands Improvement Act, and Federal Land Policy and Management Act. Actions may be required to maintain or improve resource conditions including rangeland health. The following plan conformance review summarizes the status of existing permits/leases: All seven grazing leases being analyzed in this document have been renewed for terms ranging from three years to ten-years under PL 106-113.

C. Plan Conformance

The grazing lease renewals would be subject to terms and conditions contained in the following: The California Desert Conservation Area Plan (CDCA Plan) 1980 as Amended, including the West Mojave Plan (WMP) Amendment, 2006 and Northern and Eastern Mojave (NEMO) Plan Amendment, 2002. The proposed action has been determined to be in conformance with the CDCA Plan as required by regulation (43 CFR §1610.5-3(a)). The proposed action would occur in areas identified for livestock grazing as indicated in the Livestock Grazing Element in the CDCA Plan 1980 (1999), pages 56 to 68. The proposed action is consistent with the land use decisions, and goals and objectives listed in the CDCA Plan.

D. Relationship to Statutes, Regulations, and Plans

Endangered Species

All but one of the grazing allotments, Round Mountain is within the range of federally listed threatened or endangered species. Pursuant to Section 7 of the Endangered Species Act (ESA), formal consultation with the U. S. Fish and Wildlife Service (FWS) is required on all allotments for which livestock grazing may affect listed species. The terms and conditions for grazing use of any grazing lease or permit (hereafter referred to as lease) may need to be modified to conform to the protective measures (terms and conditions) specified in a FWS biological opinion (BO). The FWS has issued a total of six BOs concerning cattle grazing in habitat for the desert tortoise. The first BO was issued in 1993, two were issued in 1994, one was issued in 1997, one issued on March 31, 2005, and the most recent issued in January 9, 2006. The FWS issued its latest BO (1-8-03-F-58) on the WMP, which does not include additional terms and conditions for BLM on cattle/horse grazing operations within habitat for the desert tortoise. The Northern and

Eastern Mojave Plan Amendment (2002) addressed ESA concerns for one grazing allotment proposed for renewal herein, while the West Mojave Plan Amendment (2006) has addressed ESA concerns for the four grazing allotments proposed for renewal and the three allotments where the termination of grazing is proposed, herein that may affect listed species.

Seven out of eight of the allotments also provide habitat for State listed fish, wildlife, and plant species. According to the MOU between BLM and CDFG, BLM agrees: "to notify the Department of all projects involving impacts to, or manipulation of, State-listed rare (threatened) and endangered fish, wildlife and plants and to obtain State recommendations of the project-specific management of such populations."

Cultural Resources

California BLM has responsibility to manage cultural resources on public lands pursuant to the 1966 National Historic Preservation Act, the 1980 Rangeland Programmatic Memorandum of Agreement with the AdvIsory Council on Historic Places (WO IM 80-369), the 1997 Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act, the State Protocol Agreement Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer, the State Protocol Agreement Between the Nevada State Director of the Bureau of Land Management and the Nevada State Historic Preservation Officer, and other internal policies.

The stipulations of any grazing lease may be modified to reflect the presence of cultural resources. Background site record and literature review will be conducted as a minimum level of review as part of the permit renewal EA. Present inventory will focus on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, salt block stations, cattle grates and fence lines. The results of this analysis will be used to modify grazing leases.

All cultural resources will be subject to review and evaluation for listing in the National Register of Historic Places. Pursuant to the amended California protocol (see Attachment 1) supporting documentation will be submitted to the California Office of Historic Preservation for review and concurrence to be submitted to the Keeper of the National Register. All cultural resources will be afforded protection consistent with law and policy, including appropriate mitigation measures.

Wilderness

Wilderness and wilderness study areas are found in or adjacent to six out of the eight allotments. Grazing activities currently occur in wilderness and wilderness study areas. For the purpose of this analysis, the proposed action contains no impacts that are expected to occur beyond those impacts already occurring under current grazing management.

The proposed action is subject to Section 103.(c) of the California Desert Protection Act (P. L. 104-433, 31 Oct 1994): 'Livestock. – Within the wilderness areas designated under Section 102,

the grazing of livestock, where established prior to the date of enactment of this Act, shall be permitted to continue subject to such reasonable regulations, policies, and practices as the Secretary deems necessary, as long as such regulations, policies, and practices fully conform with and implement the intent of Congress regarding grazing in such areas as such intent is expressed in the Wilderness Act and section 101(f) of Public Law 101-628.'

"Public Law 101-628 (28 Nov 1990, the Arizona Desert Wilderness Act of 1990), at Section 101(f): 'Livestock. – (1) Grazing of livestock in wilderness areas designated by this title, where established prior to the date of enactment of this Act, shall be administered in accordance with section 4(d)(4) of the Wilderness Act and the guidelines set forth in Appendix A of the Report of the Committee on Interior and Insular Affairs to accompany H. R. 2570 of the One Hundred First Congress (H. Rept. 101-405).'

Report 101-405, at pp.(41-2) states: 'It is anticipated that the number of livestock permitted to graze in wilderness would remain at the approximate levels at the time an area enters the wilderness system. If land management plans reveal conclusively that increased livestock numbers or animal unit months (AUMs) could be made available with no adverse impacts on wilderness values such as plant communities, primitive recreation, and wildlife populations or habitat, some increases in AUMs may be permissible. This is not to imply, however, that wilderness lends itself to AUM or livestock increases and construction of substantial new facilities that might be appropriate for intensive grazing management in non-wilderness areas." And, at p.(42): 'The construction [of] new improvements or replacement of deteriorated facilities in wilderness is permissible if in accordance with these guidelines and management plans governing the area involved. However, the construction of new improvements should be primarily for the purpose of resource protection and the more effective management of these resources than to accommodate increased numbers of livestock. "Furthermore, at p.(43): "In summary, subject to the conditions and policies outlined in this report, the general rule of thumb on grazing management in wilderness should be that activities or facilities established prior to the date of an area's designation as wilderness should be allowed to remain in place and may be replaced when necessary for the permittee to properly administer the grazing program. Thus, if livestock grazing activities and facilities were established in an area at the time Congress determined that the area was suitable for wilderness and placed the specific area in the wilderness system, they should be allowed to continue. With respect to areas designated as wilderness prior to the date of this Act, these guidelines shall not be considered as a direction to reestablish uses where such uses have been discontinued.'

"For the purposes and context of this EA, it is worth noting that, in using the term 'established', Congress would not be expected to envision instances of grazing use 'establishment' accomplished by irregular means or methods."

Water Quality

Activities related to grazing livestock may degrade the quality of water for natural occurring water sources such as springs or seeps. Any changes in grazing management or soil (surface) disturbing actions would be reviewed further for potential impacts to water quality. Best management practices would be employed to mitigate or avoid these potential impacts.

Air Quality

The proposed action would be performed within an area designated by the U.S. Environmental Protection Agency as being in non-attainment of certain Clean Air Act Standards. This designation resulted in the development of plans and strategies to protect air quality. The proposed activity is in conformance with relevant State Implementation Plans (SIPs) and Attainment Plans for protection of air quality in the area. The SIPs and attainment plans for these pollutants either have been approved or are currently under review by the U.S. Environmental Protection Agency (EPA). The project area is within the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD) which has overseen the development and implementation of local attainment plans.

The Pahrump Valley Allotment area has not been classified as a federal non-attainment/maintenance area by the USEPA. Federal actions are not subject to conformity determinations under 40 CFR 93. The Great Basin Unified Air Pollution Control District has state air quality jurisdiction over the Pahrump Valley Allotment area.

Regulation

For livestock grazing purposes, this proposal is subject to BLM regulations at 43 CFR 4100 (grazing regulations).

Plans

West Mojave Plan (Habitat Conservation Plan/CDCA Plan amendment):
This plan amendment was developed in cooperation with BLM, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), county and city governments, various interest groups, the U.S. military, and a number of public lands stakeholders. The Record of Decision (ROD) was approved on March 13, 2006 as an amendment to the CDCA Plan. The West Mojave Plan (WMP) is a local bio-regional plan addressing State and federally-listed species, specifically the desert tortoise. BLM issued the West Mojave Plan/Final Environmental Impact Statement (WMP-FEIS) in January, 2005.

Management of habitat for the tortoise and over 100 other sensitive species on public lands have been addressed, including implementation of recovery plan actions developed for the tortoise. The management of livestock grazing on public and interspersed private lands is an integral component of the West Mojave Plan. The grazing leases proposed for renewal are subject to the grazing provisions contained in the WMP. The grazing lease authorization terms and conditions would be intended to maintain and achieve the rangeland health standards and guidelines that have been adopted through the WMP.

NEMO Plan: For the Pahrump Valley grazing lease subject to the provisions of BLM's Northern & Eastern Mojave (NEMO) Plan, lease authorization terms and conditions would be intended to maintain and achieve the rangeland health standards and guidelines adopted through the NEMO Plan.

Note: Until approved by the Secretary, the "Regional Standards and Guidelines" adopted through the WMP and NEMO Plans would not be incorporated in the grazing lease authorization proposed here. Upon approval by the Secretary, The Regional Standards and Guidelines would be adopted through modification of the lease authorizations proposed here.

CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES

Introduction

Two alternatives are carried forth for analysis in this environmental assessment: The first is the West Mojave Plan Alternative, which is the implementation of the plan provisions for cattle/horse grazing contained in the plan amendment, and the second is the No Action Alternative, which would initiate action to terminate the leases and eliminate grazing from the allotments.

A. Proposed Action - West Mojave Plan

This alternative was developed after the ROD for the WMP was approved and the requirement to implement the grazing provisions contained therein for all eight allotments. Monitoring requirements, mitigation measures, and lease terms and conditions contained in the WMP would be incorporated into this alternative to minimize potential impacts to resources while continuing to provide forage for livestock grazing.

The proposed action would consist of renewing the grazing leases for the Ord Mountain, Valley Well, Rattlesnake Canyon, and Pahrump Valley Allotments for a period of 10 (ten) years, and terminating the grazing leases on the Harper Lake, Cady Mountain and Cronese Lake Allotments. Based on the ROD for the WMP the Round Mountain Allotment's expired grazing lease can only be renewed when a rangeland health assessment is completed for the allotment. A rangeland health assessment would be scheduled in the nearest feasible time frame to allow renewal prior to the next schedule livestock turn-out in December 2006. The WMP requires that the Allotment Management Plan (AMP) for the Ord Mountain Allotment be revised. This action may result in a subsequent 10 year grazing lease being issued at the completion of that process. This action would also require subsequent consultation with the FWS. The previous lessee for the Ord Mountain Allotment passed away in October, 2005. A transfer of that grazing lease/preference to the previous lessee's family would be completed and the 10 (ten) year grazing lease would be issued to them. This proposal would incorporate the grazing prescriptions contained in the ROD for the WMP (see Appendix 1) as terms and conditions, as well as a list of implementation tasks. The implementation tasks contained in the WMP is a schedule of tasks necessary to accomplish the objectives of the WMP. An example of an implementation task would be the construction of approximately 14 miles of boundary fencing on the Ord Mountain Allotment. In addition, the standard terms and conditions contained in the existing or expired grazing lease for these allotments would also be incorporated into these lease renewals. There are no additional terms and conditions directly related to cattle grazing contained in the BO (1-8-03-F-58) for the WMP. The grazing stipulations contained in the Settlement Agreement would no longer be in effect.

BLM proposes the continuation of authorizing the grazing of a small number of domestic horses on the Ord Mountain, Valley Well, and Rattlesnake Canyon Allotments. This authorization would convey all prescriptions, management actions, and terms and conditions related to the management of these five grazing allotments under five grazing leases for a term of ten years. Table 1 indicates the maximum grazing use that would be authorized by allotment in AUMs. In addition, the current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decision or through an existing agreement would also be included in this grazing lease. Until the Regional Standards and Guidelines contained in the WMP and NEMO Plan Amendments are approved by the Secretary, conformance with the achievement of fallback standards and guidelines stated in the grazing regulations (43 CFR 4180.2) would also be required to the extent possible.

On all five allotments cattle/horses would continue to be actively managed by the lessees, who use located developed/undeveloped water sources and herding to manage livestock consistent with forage availability.

The Pahrump Valley Allotment contains four reservoir located in the Nopah Range Wilderness Area. The need to authorize vehicular use in wilderness for maintenance of these reservoirs is being identified in this document. However, a site specific EA would be prepared for this action prior to the authorization of motorized use in wilderness. The need for occasional use of motorized equipment in wilderness would be discussed with the lessees for the Rattlesnake Canyon and Ord Mountain Allotments and if legitimate needs are identified a site specific EA would be prepared for this action prior to the authorization of motorized use in wilderness.

Under this alternative, the other requirements discussed and analyzed in this document would also be included. This includes, but is not limited to the requirement for a Section 106 cultural inventory in all of the allotments contained in this document.

1. Voluntary Relinquishment (VR)

Under the proposed action the following grazing leases and the associated allotments would permanently terminate cattle grazing on public land. The following grazing lease would not be renewed because the criteria for VR contained in the WMP (see Appendix 2) have been met. The grazing leases for the Harper Lake, Cady Mountain and Cronese Lake Allotments would be retired through VR of the grazing lease authorized under the ROD for the WMP. The public land which constituted these allotments would be classified as "no longer available for livestock grazing." No further management actions are being proposed for these allotments under this alternative.

2. Livestock Numbers and Season of Use *

Table 1. Under Lease Renewal

Allotment	From	To	Maximum AUMs
Round Mountain	December 1	March 31	880
Valley Well	March 1	February 28	24

Ord Mountain	March 1	February 28	3,632
Rattlesnake Canyon	March 1	February 28	1,044
Pahrump Valley	February 15	April 15	353

* See Appendix 3 for allotment descriptions

3. Range Improvements

Table 2 (below) contains new range improvement projects BLM expects to propose formally in the reasonably foreseeable future. These projects make an appearance here for informational and cumulative analysis purposes only. They would not be enabled in any sense of that term by the lease authorization proposed here, nor would this EA serve in any way to discharge BLM's requirements under NEPA regarding those improvements. The purpose of such improvements would be to maintain or achieve rangeland health. A complete list of existing range improvements that would continue to be maintained under this alternative and are included in Appendix 3.

Table 2. Proposed Range Improvements

Project Name/No.	Location Township/Range/ Section	Comments eg. General condition	Mitigation Description (indicate resource benefit of improvement)
Southwest Rattlesnake Fence # 8501	T.2N., R.3E., Sec. 22	Proposed boundary fence incorporating Section 22.	This two mile fence would enhance cattle distribution in the Upper Pasture and reduce drift onto the SBNF.
Canyon Spring # 8036	T.3N., R.3E., Sec 34	Proposed spring development in Rattlesnake Canyon.	This proposed spring development would provide water to cattle and wildlife in the "heart" of Rattlesnake Canyon, and reduce grazing pressure on Upper Rattle Spring located on private land.
Arrastre Spring/Well	T.3N.,R.3E., Sec. 13	Proposed spring or well development to provide water to portions of the allotment located between Dove Spring and Rattlesnake	This proposal would allow for enhanced livestock distribution. This portion of the allotment is relatively unused. Reduce grazing pressure in

		Spring.	the Dove and Rattlesnake Spring areas.
East Ord Well # 8224	T.6N., R.4E., Sec. 7	Proposed water well, with up to three trough locations.	This water development would enhance livestock distribution and reduce grazing pressure in DT critical habitat.
South Ord Boundary Fence # 8505	T.6N., R.1E., Sec. 17	Proposed southern boundary fence. Approx. 10 miles of fencing.	Excludes cattle grazing from high concentration tortoise areas.
East Ord Boundary Fence # 8506		Proposed eastern boundary fence. Approx. 4 miles of fencing.	Excludes cattle grazing from high concentration tortoise areas.
Round Mountain South Boundary Fence # 8503	T.3N., R.3W., Sec 9 & 10	Proposed extension to existing BLM/FS boundary fence.	This proposed one mile of fence would prevent cattle drift into sensitive riparian habitat on the San Bernardino NF.

4. <u>Measures to Maintain or Achieve Standards (Terms and Conditions of Lease) by Allotment:</u>

With the exception of the Round Mountain Allotment, all of the allotments included in this analysis are within habitat, both critical and/or non-critical of the desert tortoise, a federally listed species. Listed below in Table 3 are the acreages of public land, by allotment of desert tortoise habitat within each allotment.

Table 3. Desert Tortoise Habitat by Allotment

Allotment	Acres of Desert Wildlife Management Area (DWMA)	Acres outside of Desert Wildlife Management Area (DWMA)
Pahrump Valley		26,224
Valley Well	520	
Rattlesnake Canyon		12,800
Harper Lake	17,345	0
Ord Mountain	117,417	15,435
Cady Mountain		177,299
Cronese Lake	37,185	16,378
Round Mountain	0	0

The allotments included in this analysis are currently being managed under interim stipulations contained in the Settlement Agreement to achieve and maintain the fallback standards and guidelines cited under 43 CFR 4180.2(f)(1). The fallback standard IV, Native Species would apply to desert tortoise habitat and populations. The achievement of this standard is indirectly related to conformance with the terms and conditions listed in the most current biological opinions issued by the FWS for livestock grazing in habitat for the desert tortoise. This standard is currently not being achieved on portions of the Ord Mountain, Harper Lake, and Rattlesnake Canyon Allotments (see Table 4).

Under the proposed action, cattle/horse grazing would be managed under the provisions contained in the ROD for the WMP (see Appendix 1).

Table 4. Status of Rangeland Health on Cattle/Horse Allotments

Allotment Name	Rangeland Health Standard Issues	Trend	% Not Meeting Standard	Impacts from Livestock Yes or No	Assessment Scheduled in WMP
Pahrump Valley				Unknown	Not Yet Assessed. Scheduled for 2008
Valley Well				Unknown	Not Yet Assessed. Scheduled for 2006
Round Mountain				Unknown	Not Yet Assessed. Scheduled for 2006
Rattlesnake Canyon	Native Species	Other standards met	Not meet on approx. 15% of allotment	Yes	Assessed in 1999, needs re-assessment in 2008
Harper Lake	Native Species	Other standards met	Not meet on approx. 21% of allotment	Yes	Assessed in 1999, no need for re-assessment due to VR.
Ord Mountain	Native Species	Other standards	Not meet on approx. 10% of	Yes	Assessed in 1999, needs re-

		met	allotment		assessment in 2007
Cronese Lake		Meets all standards		N/A	Assessed in 1999, no need for re-assessment due to VR.
Cady Mountain	Native Species	Other standards met	Not meet on approx. 1% of allotment	Yes	Assessed in 2000, no need for re-assessment due to VR.

Pahrump Valley - This grazing leases would conform with the terms and conditions stated in the NEMO Plan amendment, and the 2005 Biological Opinion for the California Desert Conservation Area Plan (Desert Tortoise) (1-8-04-F-43R). The 2005 BO contains no additional terms and conditions beyond the implementation of the grazing provisions contained in the ROD for the NEMO Plan. The NEMO Plan Amendment to the CDCA Plan contains one change for the Pahrump Valley Allotment. The plan requires the use of Regional Standards and Guidelines in assessing rangeland health. However, the terms and conditions for this grazing lease would not currently include the Regional Standards and Guideline adopted in the NEMO Plan unless and until they are approved by the Secretary (see Map 2).

The current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decisions or through existing agreements would also be included in this grazing lease. Conformance with the achievement of fallback standards and guidelines stated in the grazing regulations (43 CFR 4180.2) would also be required to the extent possible.

Valley Well - This grazing leases would conform with the terms and conditions contained in the ROD for the West Mojave Plan Amendment, and the 2006 Biological Opinion (1-8-03-F-58) for the WMP. The 2006 BO contains no additional terms and conditions for the management of livestock on this allotment. The provisions for the management of livestock on this allotment contained in the WMP are listed in Appendix 1. The terms and conditions contained in both the WMP and the BO would be incorporated into the ten year lease renewal proposed under this alternative. These terms and conditions would minimize take of the desert tortoise and make positive progress towards recovery of that species (see Map 3).

The current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decisions or through existing agreements would also be included in this grazing lease. Conformance with the achievement of fallback standards and guidelines stated in the grazing regulations (43 CFR 4180.2) would also be required to the extent possible.

Rattlesnake Canyon – This grazing leases would conform with the terms and conditions

contained in the ROD for the West Mojave Plan Amendment, and the 2006 Biological Opinion (1-8-03-F-58) for the WMP. The 2006 BO contains no additional terms and conditions for the management of livestock on this allotment. The provisions for the management of livestock on this allotment contained in the WMP are listed in Appendix 1. The terms and conditions contained in both the WMP and the BO would be incorporated into the ten year lease renewal proposed under this alternative. These terms and conditions would minimize take of the desert tortoise and make positive progress towards recovery of that species (see Map 4).

The current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decision or through an existing agreement would also be included in this grazing lease. Conformance with the achievement of fallback standards and guidelines stated in the grazing regulations (43 CFR 4180.2) would also be required to the extent possible.

Ord Mountain – This grazing leases would conform with the terms and conditions contained in the ROD for the West Mojave Plan Amendment, and the 2006 Biological Opinion (1-8-03-F-58) for the WMP. The 2006 BO contains no additional terms and conditions for the management of livestock on this allotment. These terms and conditions are listed in Appendix 2. The provisions for the management of livestock on this allotment contained in the WMP are listed in Appendix 1. The terms and conditions contained in both the WMP and the BO would be incorporated into the ten year lease renewal proposed under this alternative. These terms and conditions would minimize take of the desert tortoise and make positive progress towards recovery of that species (see Map 5).

The current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decisions or through existing agreements would also be included in this grazing lease. Conformance with the achievement of fallback standards and guidelines stated in the grazing regulations (43 CFR 4180.2) would also be required to the extent possible.

Round Mountain - This grazing leases would conform with the terms and conditions contained in the ROD for the West Mojave Plan Amendment, which includes the requirement that a rangeland health assessment be completed for the allotment prior to renewal of the grazing lease. The provisions for the management of livestock on this allotment contained in the WMP are listed in Appendix 1. The terms and conditions contained in both the WMP would be incorporated into the ten year lease renewal proposed under this alternative (see Map 6).

The current season of use and permitted use, including management actions and stipulations stated in an approved AMP, if applicable, or stipulations directed by existing decisions or through existing agreements would also be included in this grazing lease. Conformance with the achievement of fallback standards and guidelines stated in the grazing regulations (43 CFR 4180.2) would also be required to the extent possible.

Harper Lake – This grazing lease would not be renewed because the criteria for voluntary relinquishment contained in the WMP has been met. The public land within the allotment boundaries would no longer be available for livestock grazing.

Cady Mountain - This grazing lease would not be renewed because the criteria for voluntary relinquishment contained in the WMP has been met. The public land within the allotment boundaries would no longer be available for livestock grazing.

Cronese Lake - This grazing lease would not be renewed because the criteria for voluntary relinquishment contained in the WMP has been met. The public land within the allotment boundaries would no longer be available for livestock grazing.

6. Monitoring

The rangeland monitoring of the five allotments being renewed under this alternative would continue to be conducted as it is currently, in three categories. These categories would be 1) short term monitoring, 2) long term monitoring, and 3) interpreting the indicators of rangeland health through a rangeland health assessment.

The use of short term monitoring is a tool to gauge the cause and effect of the current authorization. This type of monitoring consists of actual use, current climatic conditions and the collection of utilization data. This type of data would be collected on a yearly basis at minimum. The collection of utilization data should be triggered by the growing season of key species and should correlate with the phenology of key species.

The collection of long term monitoring data typically occurs every two to three years. The collection of trend data, both photo and measured trend is used for statistical analysis of vegetative attributes to make inferences on the effectness of long-term grazing strategies. The collection of measured trend has typically been accomplished through the collection of frequency data at key areas. The collection of this type of data has not been consistent and has not occurred in several years. A renewed effort to collect this type of data would be an important goal during this ten year lease cycle.

The assessment of indicators of rangeland health information is a qualitative/quantitative method that requires the formation of an interdisciplinary team that makes observations and direct measurements of various indicators to determine the health of rangelands and the achievement of fallback or regional standards of rangeland health. This process is also considered a long term process, and typically occurs every five to six years. The re-assessment of cattle allotments is scheduled for 2007 and 2008 using *Indicators of Rangeland Health* (BLM Technical Reference 1734-6 Version 4).

B. No Action

Under this alternative, BLM would continue grazing on seven cattle allotments under the existing terms and conditions that were in place prior to interim measures. With the exception of the Round Mountain Allotment the primary terms and conditions that were in place prior to interim measures were terms and conditions derived from biological opinions for the management of livestock in habitat for the desert tortoise (see Appendix 3). Terms and conditions that were in place prior to interim measures for the Round Mountain Allotment are considered “typical” terms and conditions related to cattle grazing outside of habitat for federally

listed species. For example, these terms and conditions refer to requirements like the maintenance of range improvements.

C. Alternative Considered but Dismissed

1. Under this alternative, BLM would seek the voluntary relinquishment (VR) of the remaining five grazing leases. However, this alternative is dismissed from further analysis in this document because the criteria established for VR have not been met for the other five grazing leases (see Attachment 2).

2. Under this alternative, BLM would not renew the five grazing leases and discontinue grazing on all cattle/horse grazing leases concerned. As a result, grazing would cease on the allotments affected, and the agency would initiate a process to retire those allotments under provisions of administrative instruments appropriate to the task. This alternative is dismissed because it has been previously analyzed in the FEIS for the WMP.

3. Under this alternative, BLM would renew grazing lease under interim measures contained in the Settlement Agreement. This alternative is dismissed because the plaintiffs agreed in the Settlement Agreement that interim measures would cease upon approval of the ROD for the WMP. The final determination for the termination of interim measures rests with the Federal Judge in this case, however BLM anticipates his concurrence.

CHAPTER 3: ENVIRONMENTAL ANALYSIS

This chapter addresses, by resource, the affected environment, environmental consequences, and consultation sections of the EA for 19 resource elements, and for the two grazing leases that qualify for VR under the criteria established in the WMP. These elements include the standard critical elements of the human environment (H-1790-1, appendix 5, BLM NEPA Handbook, as amended) and several other resource elements commonly affected by livestock grazing. If a resource is not present or not affected, a negative declaration statement will be included in the Affected Environment section, and the resource element will not be further addressed in the Chapter.

Required Elements:

1. Air Quality
2. Areas of Critical Environmental Concern (ACEC)
3. Cultural Resources
4. Environmental Justice
5. Farmlands, Prime or Unique
6. Flood plains
7. Invasive, Non-native Species
8. Native American Concerns
9. Recreation
10. Social and Economic
11. Soil

12. Waste, Hazardous or Solid
13. Water Quality, Surface and Ground
14. Wetlands/Riparian Zones
15. Wild and Scenic Rivers
16. Wilderness
17. Wildlife
    - Threatened or Endangered Species
18. Wild Horses and Burros
19. Vegetation
    - Threatened or Endangered Species

A. AIR QUALITY

1. Affected Environment

The project area for the purpose of this analysis is the five grazing allotments located in rural San Bernardino County.

Air quality throughout the project area, is good much of the time. There are, however, times that the area has not met air quality standards due to pollutants that are either locally generated and/or transported into the county. This has resulted in the current classification of the area as a federal non-attainment areas for ozone and PM_{10} under the National Ambient Air Quality Standards. The project area is within the Mojave Desert Planning Area. A state implementation plan (SIP) has been prepared for the planning area which identifies sources of emissions and control measures to reduce emissions. The Mojave Desert Air Quality Management District (MDAQMD) has state air quality jurisdiction over San Bernardino County

The project area for the purpose of this analysis is the Pahrump Valley Allotment located in rural Inyo County.

Air quality throughout the project area is good much of the time. The site has not been classified as a federal non-attainment/maintenance area by the USEPA. Unlike San Bernardino County, federal actions in rural Inyo County are not subject to conformity determinations under 40 CFR 93. The Great Basin Unified Air Pollution Control District has state air quality jurisdiction over the project area.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

Under the proposed action, fugitive dust emissions could occur due to the soil disturbance as a result of the trampling action of the livestock when soil moisture levels are low. Support vehicle use on the access roads will generate small amounts of PM_{10} emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment PM_{10} emissions. Ruminant animals emit methane gas which is a precursor emission for ozone. The support vehicles emit various precursor emissions for ozone. Actual emissions amounts from

this grazing activity are negligible. No significant offsite impacts are anticipated. The proposed project does not exceed the de minimus emission levels and is exempt from conformity determination {(40 CFR Part 93.153 (iii))}which exempts continuing and recurring activities such as grazing lease renewals where activities will be similar in scope and operation to activities currently being conducted. As a result no further conformity analysis or determination is necessary.

b. Impacts of No Action

Under the no action alternative, impacts to air quality would be the same as the proposed action.

c. Cumulative Impacts

The cumulative effect area for air resources for the proposed action is the Mojave Desert PM_{10} planning areas and the Mojave Desert Ozone non-attainment area. The expected emission levels are within the levels in the attainment demonstrations in the SIPs and the cumulative NAAQS 24 hour and one year PM_{10} emission standards and the one hour ozone emission standards and are not likely to result in or contribute to exceedence of the National Ambient Air Quality Standards. Likewise, the decreases in emissions from elimination of cattle grazing would be negligible relative to total emissions in the Mojave Desert for PM_{10} and ozone.

d. Consultation

The MDAQMD, and the other interested publics will be consulted concerning this analysis.

e. Maps

N/A

f. References:

BLM, Barstow Field Office. February, 1997. Fugitive Dust/PM10 Emissions Control Strategy for the Mojave Desert Planning Area.

B. AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

1. Affected Environment

Rodman Mountain Cultural ACEC
The Ord Mountain allotment overlaps a small portion of the Rodman Mountain Cultural Area ACEC. The Rodman Cultural Area was designated in 1989 to protect cultural resources and included 6,204 acres mostly within the Rodman Mountain Wilderness.

Juniper Flats Cultural ACEC
The Juniper Flats Cultural Area ACEC occurs within the Round Mountain allotment. The cultural area was designated in 1980 by the CDCA plan and encompasses 2,528 acres. The

ACEC also includes habitat for the San Diego horned lizard (*Phrynosoma coronatum*) and the gray vireo (*Vireo vicinior*).

a. Impacts of Proposed Action (WMP)

Under the proposed action there would be no potential future impacts to the Black Mountain, Cronese Basin, Manix and Afton Canyon ACECs from livestock grazing.

ACECs where designated to protect cultural, scenic, or natural resource values that are uncommon in the desert. Some of these resources are more durable than others. For instance, vegetation can be damaged much easier than rock art. Livestock grazing can potentially impact wildlife by degrading habitat (assuming that degradation occurs over a large area). There are potential physical impacts to cultural resources from cattle grazing activities, however these impacts would be restricted to lithic scatters located on the ground surface. Impacts caused by cattle typically are restricted to localized areas such as, watering holes and salt licks.

The frequent presence of the grazing lessee or their employees in the ACEC may offer some limited, additional protection to cultural resources within these two cultural ACECs by limiting access and reducing theft and vandalism.

b. No Action

Under this alternative, any potential on-going or future impacts to important and relevant ACEC resource within the Black Mountain, Cronese Basin, Manix and Afton Canyon ACEC's would continue. This would also include any potential on-going or future impacts in the Juniper Flats and Rodman Mountains ACECs. The impacts would be localized and primarily to plant communities within these localized areas. There are potential physical impacts to cultural resources from cattle grazing activities, however these impacts would be restricted to lithic scatters located on the ground surface.

c. Cumulative Impacts

Cumulative impacts to ACECs can occur from multiple uses within the boundaries of individual ACECs and from impacts to a single resource value that is regional in nature. All of the ACECs within the project area are managed under specific activity plans that identify goals for the sensitive resource values within each of the ACECs, promote uses that facilitate the accomplishment of ACEC Plan goals, and set parameters on other uses that may conflict with the accomplishment of ACEC goals. These ACEC Plans have undergone evaluations through the West Mojave Plan to review progress that has been made to accomplish some of the goals in these ACEC activity plans. Cumulative impacts from livestock grazing have been analyzed in the previous activity plans in the context of the variety of other activities that are occurring in these sensitive areas and any additional restrictions or strategies necessary to avoid cumulative impacts. Other activities that may overlap grazing allotments and ACECs include: general recreation (i. e. picnicking, camping, equestrian activities, and rock hounding), small mining claims, and off-highway vehicle (OHV) activities (on designated routes).

Cumulative impacts are occurring to certain ACEC values that are unrelated to grazing practices, as there is minimal effect from grazing to those ACEC values (e.g., landforms, casual use, cultural resources, and recreation opportunities). Riparian values have been affected by grazing practices and by other uses, both on public lands within ACECs and outside ACECs. Over time, riparian area impacts have cumulatively decreased as a result of implementation of management actions in ACEC Plans and associated actions in grazing allotment management plans. These actions have not totally eliminated impacts on riparian areas in ACECs. However, substantial localized benefits in the Western Mojave Desert have resulted from their implementation, and as a result grazing in the West Mojave does not contribute to overall cumulative impacts in Southern California.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

N/A

f. References –

BLM's ACEC Management Plans for the Afton Canyon Natural Area ACEC, Manix ACEC, Cronese Basin ACEC, Rodman Cultural Area ACEC, and the Juniper Flats Cultural Area ACEC are available for public review at the Barstow Field Office.

C. CULTURAL RESOURCES

1. Affected Environment

a. Summary

There are 281 documented prehistoric and historic sites within the 8 cattle grazing allotments managed by the Barstow Field Office. Of 12 historic sites, 4% of the total sites, 4 are comprised of mining debris while the remainder are various can dumps and house hold debris from early homesteading and railroad activity. One historic grave is representative of early 1900s military activity. CA-SBR2152 is the grave of a army paymaster killed in transit to Fort Cady around 1910.

The majority of cultural resources (69%) are lithic sites. Of 193 lithic sites, 27 contained variable combinations of lithics, pottery, petroglyphs, ground stone, and rock shelters. Of these 27 lithic sites, 5 contained bedrock mortars or milling slicks, manos, and/or metates, 17 contained pottery sherds, 2 were associated with petroglyphs, 2 were associated with a rock shelter, and 1 site contained pottery sherds and ground stone features.
Of the 21 rock features, 6 were cairns while the remainders were linear or circular rock alignments. All of these sites are of either prehistoric or historic origin. The last four categories

of sites include 13 rock shelters, 18 sites composed of pottery sherds, 5 ground stone locations, and 18 petroglyph sites.

Two grazing allotments, Round Mountain and Cronese Lake, are located in Cultural Areas of Critical Environmental Concern. Only 10 recorded sites occur within the Round Mountain allotment while the Cronese Lake allotment has 110 known sites. Recorded cultural resources within the remaining ten allotments range from 2 to 89. The different frequencies of cultural resources may indicate higher and lower areas of potential occurrence; however, it also may be indicative of differential inventory intensities.

Table 5. Cultural Resource Summary for Cattle Allotments in the Barstow Field Office.

Grazing Allotment	Historic	Grave	Lithic	Rock Feature	Rock Shelter	Sherds	Ground Stone	Petro-glyphs	Total Sites
Cady Mountain	3	1	67	17	1				89
Cronese Lake	2		86	1		17	4		110
Harper Dry Lake			18					10	28
Ord Mountain	5		11	1	9			8	34
Pahrump Valley			2						2
Rattlesnake Canyon						1	1		2
Round Mountain	2		5	2	1				10
Valley Wells			4		2				6
Totals	12	1	193	21	13	18	5	18	**281**

b. Prehistoric Sites

An excellent overview for prehistoric cultures in the Mojave Desert region is found in Warren and Crabtree (1986), who provide one of the most current syntheses. It is summarized in the proposed West Mojave Plan/Final EIS (Bureau of Land Management, California Desert District, August, 2004) which is currently available for public review.

The major groups occupying the project area within the western Mojave Desert include the Serrano, Kitanemuk, and Kawaiisu, and the Vanyume. Occupation is believed to have begun approximately 12,000 BP (before present). Southern Paiute people occupied the Amargosa River region. Kawaiisu and Serrano (Vanyume) groups were immediate neighbors and probably utilized the area as well (Warren *et al*. 1980:141). Some Mohave, Chemehuevi, and desert Cahuilla may have also traveled through the area for trade or other purposes, though whether they settled is controversial (Stickel and Weinman-Roberts 1980:93-94). Ethnographic and ethnohistoric accounts indicate that the original inhabitants had efficient foraging strategies, some of which were semi-agricultural.

Major site concentrations are found along valley floors in the salt bush-sand dune zone, especially near past and/or present water sources. A second area of site concentration occurs at

higher elevations in the black bush, Joshua tree piñon-juniper zone not necessarily near existing water. Within grazing allotments, current or ephemeral water sources are likely to be areas of higher cattle use.

Sites on the valley bottom are concentrated along lake margins and springs and may cover several acres. A wide range of artifacts are found here, suggesting many different activities. The same or different groups of people may have used these same sites repeatedly (Warren *et al.* 1980:68). The site distribution suggests small bands dispersed across the countryside to exploit scattered resources. The pattern of sites suggests seasonal movement from valley bottoms to higher elevations in search of pine nuts, agave, deer, mountain sheep, etc. The pattern is one in which bands gathered in the valley bottoms and dispersed in small task groups at higher elevations (Warren *et al.* 1980:70).

Around 4,000 years ago, the Little Pluvial began and corresponding flora and fauna essentially assumed its present form and distribution. This period is initially characterized by intense occupation of the desert, broadening economic activities, and increased contact with the California coast and Southwest. It is presumed that a flexible "band" organization was still operative as people exploited food resources across the landscape (Warren and Crabtree 1986:189; Warren *et al*. 1980:46).

Other defining features of the material culture include blades, drills, flake scrapers, slate pendants, introduction of mortars and pestles, and an increase in manos and metates (Stickel and Weinman-Roberts 1980:70). Transition from atlatl to bow and arrow technology is also apparent. Pottery and split twig figurines reminiscent of Southwest cultures suggest additional relations with Mojave Desert inhabitants (Warren and Crabtree 1986:189).

One of the most important sites of this period is Newberry Cave (Smith *et al*. 1957; Davis and Smith 1981; Davis, Taylor, and Smith 1981) northeast of Barstow, California. It was discovered by Gerald Smith in 1933 (1957, 1963b). The dry caved contained an array of perishable and non-perishable artifacts as well as pictographs. Excavation in the 1950s focused on the four "rooms" distinguished within the cave. A variety of stone, bone, wood, and fiber artifacts were recovered, including a mano, quartz crystals, a chopper, scrapers, bone awls, a bone atlatl hook, wooded atlatl butts, shafts, and fore shafts, fragments of abalone, sandal fragments, pigments, painted animal skin, and feathers (Smith *et al*. 1957; Stickel and Weinman-Roberts 1980:72). Projectile points included Elko Eared, Elko Corner-notched, and Gypsum Cave points. A series of radiocarbon dates range from 3000 BP to 3800 BP. The authors suggest that cultural material may have been deposited over a 500-year period (Warren and Crabtree 1986:188). Remains of bighorn sheep, weapons and figurines, paint, quartz crystals, small painted stones, and pictographs suggest hunting ceremonial activities rather than occupation (Warren and Crabtree 1986:189). This site is listed on the National Register of Historic Places and is one of the best known sites that characterizes the time period.

Increased numbers of habitation sites suggest a general population increase in the Mojave Desert from 1,200 BP until contact with non-native peoples. This period is also characterized by a wet climatic regime between about 800 and 900 BP. This moist episode is suggested by the shell middens surrounding the Cronise Lakes (Rogers 1933). Most of the material culture at Cronise Lakes seems best compared with prehistoric "Yuman" (Patayan) occupations (Davis 1962;

Donnan 1962, 1964; True, Davis, and Sterud 1966; Kroeber 1959) (Warren *et al*. 1980:54). The Cronese Lakes is an Area of Critical Environmental Concern (ACEC) that is managed to protect the scientifically valuable resources.

Assemblages reported along the length of the Mojave River to the Mojave Sinks (G. A. Smith 1963; M. G. Rogers 1929; Drover 1979) include brown, buff, and red-on-buff pottery (paddle and anvil method) apparently derived from the Colorado River, as well as Desert Side-notched and Cottonwood Triangular points. The sites on the upper Mojave River appear more elaborate with house pits, more abundant shell beads, ornaments, and polychrome painted utilitarian items like metates (G. A. Smith 1963) (Warren and Crabtree 1986:191-192). Bedrock mortars, metate and mano fragments, and pottery sherds have been documented within the Juniper Flats ACEC, which coincides with the Round Mountain cattle allotment. Cultural resources are managed to protect their scientific value.

c. Historic Sites

As with most regions of the American west, the topography, climate, and geography played a direct role in how development unfolded. Exploration and early settlement of the Mojave Desert region was begun by the Spanish in the mid-1700s. Francisco Garces, a Spanish Franciscan priest, was one of the first people to go looking for a practical route from Arizona to northern California. Subsequent Spanish contact with native people became increasingly hostile, involving reciprocating and massacres (Stickel and Weinman-Roberts 1980:119) and settlement in the Mojave Desert was slow to be established. Mexican control of the Mojave Desert and the Spanish missions and ranches resulted in secularizing ownership by 1836. Settlement by white colonists, mostly trappers like Jedediah Strong Smith, soon followed (Stickel and Weinman-Roberts 1980:122). During this period, the Mojave Desert served first as a point of entry for westward bound American fur trappers. By the 1840s, these trappers had joined forces with native tribes to attack cattle ranches, which were the economic mainstay of California under Mexican rule.

Historic sites associated with American settlement and commerce across the Mojave desert relate to ranches/homesteads, trails and landmarks, military presence, and mining (Stickel and Weinman-Roberts 1980:177). Other early activity in the area consisted of exploration and scientific expeditions. In 1844, John C. Fremont's second and third western expeditions followed the Old Spanish Trail from the southern Mojave River to Las Vegas, Nevada (Von Till Warren *et al*. 1981:II-2). In the Spring of 1855, Lieutenant Sylvester Mowry and a military detachment marched from Salt Lake City to Fort Tejon by way of Resting Springs. They traveled through Cedar City, Santa Clara, Las Vegas, and the Mojave River (Von Till Warren *et al*. 1981:II-63). Coming from the east, Edward F. Beales' first trans-continental expedition explored a central route for a proposed railroad from May 10, 1853 to August 22, 1853. While passing through Utah, he intersected the Old Spanish Trail before reaching the Green River. His survey passed by Stump Spring, Resting Springs, the Amargosa Desert, and Bitter Spring to the Mojave River (Von Till Warren *et al*. 1981:II-72).

Like other major east-west trails across the Mojave Desert, the North Fork route of the Old Spanish Trail and Salt Lake (Mormon) Road was first developed by Indian traders. Between

1829 and 1830, a trail was established from Santa Fe, New Mexico and Los Angeles, California following this route. Jedediah Smith led the way, followed by other mountain men, like Ewing Young in 1829. Antonio Armijo is credited with leading the first caravan of pack animals across the Mojave in 1830. Other trails arising from commerce in California include the Mojave Trail and Salt Lake Trail, both of which run through present day Barstow. After 1848, Mormon converts used the trail, later followed by Mormon freighting companies carrying goods between Salt Lake City and San Pedro Harbor (Von Till Warren *et al*. 1981:21). Another cut-off from the Salt Lake trail was developed in the 1860's. Known as the Cox-Cut-Off, this route left the trail and looped through Mesquite Wells to the Potosi town site, Nevada and back to the Salt Lake Trail at Cottonwood Springs. Silas C. Cox was an active freighter between San Bernardino and Salt Lake City and is the likely name-sake for this road (Beattie 1925). Two stages served Potosi in 1860-1861 (Von Till Warren *et al*. 1981:29). The Old Spanish Trail is a designated National Historic Trail, which is overlapped in many places by the Salt Lake (Mormon) Road. Portions of the early trail and road are still visible or in current use, such as the Cox Truck Trail in Juniper Flats.

Later, the region was mainly used as a corridor for native traders and couriers, Mexican caravans, followed by railroads, telegraph, telephone lines, and power lines. Ephemeral towns and mining camps were linked to these routes of travel and stimulated by their development. Railroad lines and other roads often died when the towns died (Warren *et al*. 1980:195).

Settlement by Americans and the growth of coastal and inland trade did culminate in annexation of California by the United States in 1848. In that same year, gold was discovered and the California gold rush began (Stickel and Weinman-Roberts 1980:128). Gold and silver mining in the western Mojave developed during the 1880s (Stickel and Weinman-Roberts 1980:144). Silver mining was concentrated in the Calico and Grapevine mining districts. In addition to the precious metals, borax, copper, tungsten, iron, and nonmetal mining continued in the western Mojave Desert as a major contributor to California's mining industry in the first decades of the twentieth century (Stickel and Weinman-Roberts 1980:144). Numerous historic mine workings are located throughout the grazing allotments.

The ultimate culmination of railroad surveys and commercial interests of the Atlantic, Pacific, and Southern Pacific resulted in railroad construction in southern California. In the 1860s, the first transcontinental railroad was under construction and destined for completion at Promontory, Utah. At the same time, the Union Pacific Railroad, Eastern Division, scouted a route south along the 32nd or 35th parallels. Surveyors found a good bed south of the Mojave Trail (Road) that crossed the Mojave River, and took their line directly to Tehachapi Pass. The Southern Pacific Railroad later used most of this route for their line between Daggett and Needles (Stickel and Weinman-Roberts 1980:133). This line is still operative and runs through the Cronese and Cady Allotments.

During the late 1850s and early 1860s, various tribes repeatedly raided merchants and traders in the Mojave region. In response to their demands to protect overland routes, General Clarke, Commander of the Pacific Military Division, began a series of forts in the desert. In 1860, Major James H. Carleton, Company K of the First Dragoons, established Fort Cady at Forks-in-the-Road east of present day Barstow (Stickel and Weinman-Roberts 1980:177). Fort Cady is listed

on the National Register of Historic Places.

Another historic landmark located within a grazing allotment is Black Canyon, a well-defined sandy wash with historic petroglyphs made by A. Tillman in 1872. A stage road once passed through the canyon after 1873, when silver was discovered in the Panamint Mountains to the north. It ran between Surprise Canyon and San Bernardino (Stickel and Weinman-Roberts 1980:187). Additionally, prehistoric petroglyphs are also located in this area.

2. Environmental Consequences

a. <u>Impacts of Proposed Action (WMP)</u>

Through previous research ((ASPPN) I-15, 1990; Nielson 1991; Osborn et al. 1987; Roney 1977) and personal experience it has been determined that the areas of highest potential impact will be located around springs, troughs, water courses, and salt licks. These are high-use grazing areas and the former are also areas that tend to have concentrations of cultural sites. Impacts may include disturbance to the horizontal distribution of artifacts and may obscure patterns existing in their original deposition, and eventually can introduce new trends in their spatial arrangement. Vertical migration of materials, resulting from grazing, can move artifacts across stratigraphic units and cause the mixing of deposits obscuring the stratigraphic integrity of separate occupational periods. Trodden, artifacts can undergo several types of damage, including breakage, micro-chipping and abrasion (Nielson 1991:483-484). Collective grazing activity can cause spatial, chronological and functional information to become obscured, causing erroneous temporal, spatial and functional interpretations. The result can be damaged and diminished integrity of a site adversely affecting its potential to meet National Register criteria. These analyses will assess the degree of impact that the grazing has had to cultural properties within the Barstow Field Area and will provide recommendations to mitigate further negative effects to cultural properties potentially eligible to or listed on the National Register of Historic Places.

To address the impacts of grazing on cultural resources within the Barstow Field Area, a sampling strategy has been devised which focuses efforts on congregation areas where it has been shown that the greatest levels of impact occur (e.g., springs, perennial water courses, troughs, and salt licks). Cultural assessments of allotments will be prioritized by 1) the number of eligible properties to be relocated, 2) sites occurring at or near water sources, and 3) sites located at or near salt licks. These investigations will only address public lands, and will occur over the next 10 years, beginning in 2006. Private, State, and County in-holdings will not be evaluated. Though cattle trailing occurs along fence-lines, the area of impact is limited to a one meter wide swath and impacts to cultural resources are generally restricted to this corridor. Therefore, linear improvements will not be analyzed for this analysis. Salt lick use areas may change from season to season making locating these areas problematic. Lessees will be asked to provide a map designating salt lick areas on public land and these locations will be evaluated should they occur in areas where the probability for the occurrence of cultural resources is high.

A Class I records search will be conducted for each allotment to ascertain previously recorded site locations. Sites located within congregation areas and sites previously determined eligible

will be visited to evaluate grazing impacts. Trough locations which have not been surveyed will be completely inventoried within a 100 meter diameter area of the trough. Perennial spring locations will also be fully inventoried within a 100 meter diameter of the spring. A sample survey will be conducted along all perennial water courses. A 100 meter corridor on each side of the water course will be evaluated utilizing zig zag transects. Water courses over one mile long will be sampled along a minimum of 50% of the stream course. The water course will be segmented into 1/2 to 3/4 mile sample areas and a 100 meter corridor as described above will be inventoried.

All unrecorded site locations will be recorded. An exception will be instances where numerous sites occur in a sample area which is not receiving noticeable grazing impacts. In these cases a sample of sites will be fully recorded and evaluated. The unrecorded site (URS) locations will be mapped using a GPS and a brief description of each site will be provided in the allotment report. URS locations will be maintained in the data base for future recordation. A full report of findings for each allotment will be completed and mitigation measures, if needed, recommended.

This approach addresses the potential affects of livestock grazing to cultural properties and the strategies to evaluate on the ground effects of eight allotment renewals, encompassing 450,000 acres of public land administered by the BLM, Barstow Field Office. Livestock grazing is determined a federal undertaking, as such, the BLM is taxed with determining the potential effects of this action (i.e., renewal of grazing leases) to historic properties that are eligible to or are listed on the National Register of Historic places. Due to the immense scope of this project a sampling strategy has been presented here that focuses on areas where livestock congregation occurs and where, subsequently, the greatest impacts to cultural properties are predicted to occur.

In general, mitigation will address grazing congregation areas and the primary and secondary impacts to cultural properties resulting from the intensive use of specific areas (e.g., troughs, springs, etc.). Mitigation measures will vary from location to location, designed for site specific and potentially larger scale habitat wide impacts (e.g., fencing an entire stream corridor where a high density of cultural properties are known to occur). Actions may take the form of trough removal and/or placement to disperse grazing from known cultural properties. Riparian or spring/stream corridor fencing or extensions to incorporate cultural properties within the protected zone. Fencing of individual cultural properties if dispersal of grazing from an impacted site is untenable. Placement of salt licks away from known sites and high probability areas. The desired future condition is for a viable grazing program which minimizes impacts by recognizing use patterns and adjusting these trends to address the negative affects to cultural properties potentially eligible to, or listed on, the National Register of Historic Places.

b. <u>No Action</u>

Under this alternative, any potential on-going or future impacts to cultural resources from cattle grazing would continue on the Cady Mountain, Cronese Lake and Harper Lake Allotments.

c. <u>Cumulative Impacts</u>

Sensitive historic and prehistoric cultural resources within the California Desert District would

continue to be impacted by grazing and associated activities within the five cattle allotments. Grazing involves herding, loading, and transport of animals as well as maintenance of existing range improvements (fences, corrals, and water facilities), congregation at developed watering facilities and corrals, and travel along existing routes by the lessee. There would be an incremental loss of cultural resources from these activities. Overall, grazing would have a negligible cumulative effect on cultural resources on public lands within the California desert.

d. Consultation

Consultation with SHPO is on-going.

e. Maps

N/A

f. References –

ASPPN
1990 Impacts Of Domestic Livestock Grazing On Archaeological Resources *Archaeological Sites Protection and Preservation Notebook, Technical Notes* I-15. U.S. Army Engineer Waterways Experiment Station, Vicksburg MS

Bauer, Melven D.
2003 *Ancient Pleistocene Lake Basin Mystery Circles*. Prepared for Bureau of Land Management, Barstow, California.

Bean, Lowell John
1962-1972 Serrano Field Notes. Cited In The *Handbook of North American Indians, Volume 8: California* edited by Robert F. Heizer. Smithsonian Institute. Washington D.C.

Bean, Lowell J. and Thomas C. Blackburn
1976 *Native Californians – A Theoretical Retrospective*. Ballena Press, Socorro, New Mexico.

Bean, Lowell J. and Charles R. Smith
1978 Serrano. In The *Handbook of North American Indians, Volume 8: California* edited by Robert F. Heizer. Smithsonian Institute. Washington D.C.

Beattie, George William
1925 Devleopment of Travel between Southern Arizona and Los Angeles As It Relates to the San Bernardino Valley. *Historical Society of Southern California Annual Publications* 13(2).

Belden, L. Burr
1953 T& T Built To Top Death Valley Borate Deposits. *San Bernardino Sun-*

Telegram. February 1, 1957, Page 16.

1957 Hanging Rocks of Amargosa's Canyon Visited. *San Bernardino Sun-Telegram*. March 10, 1957, Page 46.

1960 Mine, Railroads Bring Boom to Town of Ludlow. *San Bernardino Sun-Telegram*. April 10, 1960, Section D, Page 8.

Benedict, Ruth Fulton
1924 A Brief Sketch of Serrano Culture. *American Anthropologist* 26(3):366-392.

Bettinger, R. L. and R. E. Taylor
1974 Suggested Revisions in Archaeological Sequences of the Great Basin in Interior Southern California. *Nevada Archaeological Research Papers* 5:1-26.

Blackburn, Thomas C. and Lowell J. Bean
1978 Kitanemuk. In The *Handbook of North American Indians, Volume 8: California* edited by Robert F. Heizer. Smithsonian Institute. Washington D.C.

Brooks, Richard H., Richard Wilson, and Sheilagh Brooks
1981 *An Archaeological Inventory Report of the Owlshead/Amargosa-Mojave Basin Planning Units of the Southern California Desert Area*. Cultural Resource Publications in Anthropology-History. Bureau of Land Management, California.

Broadbent, S.
1972 Archaeology Report In The *Amargosa Canyon-Dumont Dunes Proposed Natural Area* submitted to the Bureau of Land Management by The Pupfish Habitat Preservation Committee.

Campbell, Elizabeth W. Crozer and William H. Campbell
1935 The Pinto Basin Site: An Ancient Aboriginal Camping Ground in the California Desert. *Southwest Museum Papers* 9. Los Angeles.

Clewlow, C. William Jr., Robert F. Heizer, and Rainer Berger
1970 An Assessment of Radiocarbon Dates for the Rose Spring Site (CA-INY-372), Inyo County,m California. In *Papers on Anthropology of the Great Basin*, pp. 19-27. University of California Archaeological Research Faciltiy Contributions 7. Berkeley.

Coombs, Gary B., Robert H. Crabtree, and Elizabeth Warren
1979 *The Archaeology of the Northeast Mojave Desert*. Cultural Resource Publications in Archaeology. Bureau of Land Management, California.

Corbett, Carol A.
2000 *Nitre Lands of California: A Report on the 1903 Building*. Prepared by Great Basin Research, Las Vegas, Nevada for Bureau of Land Management,

Sacramento, California.

Dalrymple, G. B., A. Cox, and R. R. Doell
1965 Potassium-Argon Age and Paleomagnetism of the bishop Tuft, California. *Geological Society of America Bulletin* 76:665-673.

Davenport, Lawrence C. and Jean Goldbrandsen
1963 *Barstovian Fossil Beds at Barstow, California*.

Davis, C. Alan and Gerald A. Smith
1981 *Newberry Cave*. San Bernardino County Museum Association. Redlands, California.

Davis, C. Alan, R. E. Taylor, and Gerald A. Smith
1981 New Radiocarbon Determinations From Newberry Cave. *Journal of California and Great Basin Anthropology* 3(1):144-147.

Davis Emma Lou
1975 The "Exposed Archaeology" of China Lake, California. *American Antiquity* 40(1):39-53.

1978 *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country*. Natural History Museum of Los Angeles County, California.

Davis, James T.
1962 The Rustler Rockshelter Site (SBR288): A Culturally Startified Site in the] Mohave Desert, California. *University of California Archaeological Survey Reprots* 57(2):25-56. Berkeley.

D'Azevedo, Warren L.
1986 *Handbook of North American Indians, Volume 11: Great Basin*. Edited by William C. Sturtevant. Smithsonian Institute. Washington D.C.

Donnan, Christopher B.
1964 A Suggested Cultural Sequence For The Providence Mountains (Eastern Mojave Desert). *Annual Reports of the University of California Archaeological Survey for 1964-1964*:1-23. Los Angeles, CA.

Drucker, Philip
1937 Culture Element Distribution, Volume 5: Southern California. *University of California Anthropological Records* 1(1):1-52. Berkeley.

Frick, Childs
1921 Extinct Vertebrate Faunas of the Badlands of Bautista Creek and San Timoteo Canyon. *University of California Department of Geologic Science Bulletin* 12:277-424

1937 Horned Ruminants of North America. *American Museum of Natural History Bulletin* 49:669 and xxviii.

Gerhardt, Patricia L.
1974 Shoshone Shelter Cave Number Two: A Preliminary Report. *Pacific Coast Archaeological Society Quarterly* 10(2):35-50. Santa Ana, California.

Glasscock, Carl Burgess
1940 *Here's Death Valley*. Grosset and Dunlap, New York.

Glennan, William S.
1974 The Baker Site (SBR541). *Pacific Coast Archaeological Society Quarterly* 10(2):17-34.

Harrington, John P.
1957 A Pinto Site at Little Lake, California. *Southwest Museum Papers* 17. Los Angeles.

Heap, Gwin Harris
1957 *Central Rout To The Pacific*. Arthur H. Glendale, Clark Company.

Heizer, Robert F.
1978 Natural Forces and Native World View. In the *Handbook of North American Indians, Volume 8: California* edited by Robert F. Heizer. Smithsonian Institute. Washington D.C.

Hunt, Alice P. and Charles B. Hunt
1964 *Archaeology Of The Ash Meadows Quadrangle, California and Nevada*. Manuscript on file at Death Valley National Monument.

Izett, G. A., R. E. Wilcox, H. A. Powers, and G. A. Desborough
1970 The Bishop Ash Bed, A Pleistocene Marker Bed in the Western United States. *Quaternary Research* 1:121-132.

Jefferson, George T.
1991 The Camp Cady Local Fauna: Stratigraphy and Paleontology of the Lake Manix Basin. *San Bernardino County Museum Association Quarterly* 38(3,4):93-99.

Jenkins, Dennis L. and Claude N. Warren
1983 *Obsidian Hydration and the age of Pinto Points*. Paper Presented at the Southwest Anthropological Conference. San Diego, California.

Keeling, Patricia Jernigan
1976 *Once Upon A Desert: A Bicentennial Project*. Mojave River Valley Museum Association. Barstow, California.

King, Chester and Thomas C. Blackburn
1978 Tataviam. In The *Handbook of North American Indians, Volume 8: California* edited by Robert F. Heizer. Smithsonian Institute. Washington D.C.

Knight, Lavinia
1973 A figurine from China Ranch. *Pacific Coast Archaeological Society Quarterly* 9(3):48-51.

Kroeber, Alfred L.
1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78.

Lanning, Edward P.
1963 Archaeology of the Rose Spring Site INY-372. *University of California Pulbications in American Archaeology and Ethnology* 49(3):237-336. Berkeley.

Leakey, Lewis S. B., Ruth D. Simpson, and T. Clements
1968 Archaeological Excavations In The Calico Mountains, California: Preliminary Report. *Science* 160:1022-1023.

Lewis, H. T.
1972 The Role of Fire in the Domestication of Plants and Animals in Southwest Asia: A Hypothesis. *Man* 7:195-222.

Lingenfelter, Richard E.
1986 *Death Valley and the Amargosa: A Land of Illusion*. University of California Press, Berkeley.

Mason, J. F.
1948 Geology of the Tecopa Area, Southeastern California. *Geological Society of America Bulletin* 59:333-352.

McCracken, Robert D.
1992 *The Modern Pioneers of the Amargosa Valley*. Nye County Press, Tonopah, Nevada.

McGuire, Kelly R, Alan P. Garfinkel, and Mark E. Basgall
1981 *Archaeological Investigations in the El Paso Mountains of the Wetern Mojave Desert: The Bickel and LastChance Sites (CA-Ker-250 and 261).* Report prepared by the Far West Anthropological Research Group, Inc. for the U.S. Bureau of Land Management, Riverside, California.

McKinney, Aileen, Duane Hafner, and Jane Gothold
1971 A Report on the China Ranch Area. *Pacific Coast Archaeological Society Quarterly* 7(2):1-48. Costa Mesa, California.

Mehringer, Peter J.
1977 Great Basin Late Quaternary Envrionments and Chronology. In Models and Great Basin Perhistory: A Symposium edited by Don D. Fowler, pp. 113-167. *University of Nevada Desert Research Institute Publications in the Social Sciences* 12. Reno.

Mendenhall, W. C.
1909 Some Desert Watering Places In Southern California And Southwestern Nevada. *USGS Water Supply Paper* 224. U.S. Government Printing Office, Washington, D.C.

Merriam, J. C.
1919 Tertiary Mammalian Faunas of the Mohave Desert. *University of California Department of Geologic Science Bulletin* 11:437-585.

Murphy, M. A.
1976 *California Desert Conservation Area: Invertebrate Paleontological Resources Study*. University of California, Riverside. MS On File With Bureau of Land Management.

Myrick, David F.
1991 *Railroads of Nevada and Eastern California, Volume II: The Southern Railroads*. University of Nevada Press, Las Vegas.

Nielson, Axel E.
1991 Trampling The Archaeological Record: An Experimental Study. *American Antiquity* 56(3):483-503.

Osborn, A., S. Vetter, R. Hartley, L. Walsh, and J. Brown.
1987 Impacts of Domestic Livestock Grazing on the Archeological Resources of Capital Reef National Park, Utah. *National Park Service Midwest Archeological Center, Occasional Studies in Anthropology*, No 20. Lincoln, Nebraska.

Pourade, R. E.
1966 *Ancient Hunters of the Far West*. Union-Tribune Publishing Company. San Diego, California.

Powers, S.
1877 Tribes of California. U.S. Geographical and Geological Survey of the Rocky Mountain Region. *Contributions to North American Ethnology* 3. Washington D.C.

Rader, Art
1974 *Tonopah and Tidewater Railroad: An Outline On Its Construction History: A Preliminary Historical Archaeological Survey*. Masters Thesis in Anthropology, University of California. Las Vegas, Nevada.

Rector, Carol H. James D. Swenson, and Philip I. Wilke
1979 *Archaeological Studies at Oro Grande, Mojave Desert, California*. Final report Submitted to Victor Valley Wastewater Reclamation Authority, Victorville, California.

Reynolds, Robert E. and Richard L. Reynolds
1991 Strutural Implicaitons of Late Pleistocene Faunas from the Mojave River Valley, California. *San Bernardino County Museum Association Quarterly* 38(3,4):100-105.

Rogers, Malcolm J.
1929 Report on an Archaeological Reconnaissance in the Mojave Sink Region. *San Diego Museum of Man Archaeological Papers* 1(1). San Diego, California.

1939 Early Lithic Industries of the Lower asin of the Colorada River and Adjacent Desert Areas. *San Diego Museum of Man Archaeological Papers* 3. San Diego.

1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1:167-198.

Rousseau, J. A.
1958 Rousseau Diary: Across The Desert To California From Salt Lake City to San Bernardino in 1864. *San Bernardino Museum Quarterly* 6(2).

Rowe, John H.
1962 Stages And Periods In Archaeological Interpretation. *Southwest Journal of Anthropology* 18(1).

Savage, Donald E. and Theodore Downs
1954 Cenozoic Land Life of Southern California. In Geology of Southern California: Historical Geology. *California Division of Mines Bulletin* 170, Contribution 6.

Scott, Eric
2000 Fossil Horses at Fort Irwin: The Paleontology of Bitter Springs Playa. *Natural and Cultural Resources Series* 2. Tierra Data Systems, Escondido, CA

Sheppard, R. A., and A. J. Gude
1968 Distribution and Genesis of Anthigenic silicate Minerals in Tufts of Pleistocene Lake Tecopa, Inyo County, California. *U.S. Geologic Survey Paper* 597.

Smith, Gerald A.
1963a *Archaeological Survey of the Mojave River Area and Adjacent Regions*. San Bernardino County Museum Association.

1963b Split-Twig Figurines From San Bernardino County, California. *Masterkey* 37:86-

90.

Smith, Gerald A., W. C. Schuiling, L. Martin, R. J. Sayles, and P. Jillson
1957 Newberry Cave, California. *San Bernardino County Museum Association Quarterly Scientific Series* 1(4):3.

Stickel, E. Gary and Lois J. Weinman-Roberts
1980 *An Overview of the Cultural Resources of the Western Mojave Desert*. California Bureau of Land Management Cultural Resources Publications: Anthropology-History.

Strong, William D.
1929 Aboriginal Society in Southern California. *University of California Publications in American Archaeology and Ethnology* 26(1):1-358. Berkeley.

Sully, John M., Miriam A. Romero, and Robert D. Smith
1972 *Amargosa Canyon-Dumont Dunes Proposed Natural Area*. A Report Submitted to the Bureau of Land Management by The Pupfish Habitat Preservation Committee, Montrose, California.

Sutton, Mark Q.
1980 Some Aspects of Kitanemuk Prehistory. *Journal of California and Great Basin Antrhopology* 2(2):214-225.

1981 Archaeology of the Antelope Valley, Western Mojave Desert, California. Manuscript cited by Warren and Crabtree in the *Handbook of North American Indians, Volume 11: Great Basin* edited by Warren L. D'Azevedo, pp183-193. Smithsonian Institute. Washington D.C.

Thompson, David G.
1929 The Mohave Desert Region. *Water Supply Paper* 578. Government Printing Office, Washington D.C.

True, D. L., E. L. Davis, and E. L. Sterud
1966 Archaeological Surveys In The New York Mountains Region, and Bernardino County, California. *Annual Reports of the University of California Archaeological Survey* 8:243-278. Los Angeles, California.

Vincent. Bill
1973 China Ranch and Amargosa Gorge. *The Nevadan, Las Vegas Review-Journal*. December 9, 1973:3-5.

Von Till Warren, Elizabeth, Ralph J. Roske, and Elizabeth Nelson Patrick
1981 *Cultural resources of the California Desert, 1776-1880: Historic Trails and Wagon Roads*. Cultural Resource Publications in Anthropology-History. Bureau of Land Management, California.

Wallace, William J.
1962 Prehistoric Cultural Developments in the Southern California Deserts. *American Antiquity* 28:172-180.

1978 Post Pleistocene Archaeology, 9,000-2,000 B.C. In The *Handbook of North American Indians, Volume 8: California* edited by Robert F. Heizer. Smithsonian Institute. Washington D.C.

Wallace, William J. and Edith S. Taylor
1959 A Preceramic Site at Saratoga Springs, Death Valley National Monument, California. *Contributions to California Archaeology* 3(2):1-13. Los Angeles.

Waring, Gerald A.
1915 *Springs of California*. Government Printing Office, Washington D.C.

Warren, Claude N. and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In The *Handbook of North American Indians, Volume 11: Great Basin* edited by Warren L. D'Azevedo. Smithsonian Institute. Washington D.C.

Warren, Claude N., Martha Knack, Elizabeth von Till Warren, and Richard L. McCarty
1980 *A Cultural Resource Overview for the Amargosa-Mojave Basin Planning Units*. Cultural Resource Publications in Anthropology-History. Bureau of Land Management, California.

Warren, Claude N. and Anthony J. Ranere
1968 Outside Danger Cave: A View Of Early Man In The Great Basin. In Early Man In Western North America Edited by C. Irwin-Williams. *Eastern New Mexico University Contributions in Anthropology* 1(4):6-18.

Wheeler, S. M.
1973 The Archaeology of Etna Cave, Lincoln County, Nevada. Edited by Don .D Fowler. *Desert Research Institute Publications in the Social Sciences* 7.

Woodburne, Michael O.
1978 *Fossil Vertebrates in the California Desert Conservation Area*. Report Prepared As Part of the California Desert Conservation Area Management Plan. On File at the Bureau of Land Management. Barstow, CA.

1991 The Mojave Desert Province. *San Bernardino County Museum Association Quarterly* 38(3,4):60-77.

Zigmond, Maurice L.
1986 Kawaiisu. In The *Handbook of North American Indians Volume 11: Great Basin* edited by Warren L. D'Azevedo. Smithsonian Institute. Washington D.C.

D. ENVIRONMENTAL JUSTICE

1. Affected Environment

The grazing allotments being analyzed are located in rural San Bernardino and Inyo counties. The rural areas of these counties are typically occupied by moderate to low-income households. The lessees that hold the grazing leases for the allotments being analyzed typically have moderate incomes. Seasonal laborers that may be hired by the lessees generally come from low-income households. Minority populations in the cattle industry are typical for rural San Bernardino and Inyo counties and would most likely be seasonal laborers.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

The implementation of the proposed action would have an affect but not a disproportionate affect on low-income or minority populations living on or near the allotments being analyzed.

The grazing of livestock in rural San Bernardino and Inyo counties has been a common practice for over 100 years. Ranching has been typically performed by persons of low to moderate income, and is not an industry that has a predominantly high minority population. There are no Native American communities on or near any of the allotments being analyzed.

b. No Action

Under the no action alternative, impacts to environmental justice would be the same as the proposed action.

c. Cumulative Impacts

There are no known cumulative impacts to low-income or minority populations as a result of any of the alternatives. Present and future seasonal jobs associated with the cattle industry do not appreciably affect the overall regional economy of low-income or minority populations in rural San Bernardino County.

d. Consultation

All affect Native American tribes with traditional ties to the lands within the allotments being analyzed would be consulted. San Bernardino and Into Counties would also be consulted.

e. Maps

N/A

f. References – N/A

E. FARMLANDS, PRIME OR UNIQUE

1. Affected Environment

The proposed action, or any alternative would have no affect on farmlands, prime or unique because no farmlands, prime or unique are present in or adjacent to the grazing allotments under analysis.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

There would be no impacts from the proposed action.

b. No Action

Same as above.

c. Cumulative Impacts

There would be no cumulative impacts from the proposed action, or any alternative.

d. Consultation

N/A

e. Maps

N/A

f. References – N/A

F. FLOOD PLAINS

1. Affected Environment

The proposed action, or any alternative would have no affect on flood plains because no flood plains are present in or adjacent to the grazing allotments under analysis.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

There would be no impacts from the proposed action.

b. No Grazing

Same as above.

c. Cumulative Impacts

There would be no cumulative impacts from the proposed action, or any alternative.

d. Consultation

N/A

e. Maps

N/A

f. References – N/A

G. INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

All of the allotments that are analyzed in this document contain varying densities of invasive and non-native species. Red brome (*Bromus madritensisi ssp. rubens*), downy brome (*Bromus tectorum*), schismus (Schismus arabicus), filaree (*Erodium cicutarium*), and several mustard species, including Sahara mustard (*Brassica tournefortii*) are the five most widespread invasive species present in the allotments. The invasive and non-native species compete with native herbaceous species, especially annual species, for available moisture, nutrients, and spatial occupation of available upland habitat. Species densities vary widely. For example, these species are most widespread in the western and central portion of the Ord Mountain Allotment.

2. Environmental Consequences

a. Impacts of Proposed Action

The presence of livestock can spread the seeds of invasive species through seeds sticking to their hide, or deposition of seed through their digestive system (Belsky 2000). It is not known the extent to which improper grazing practices contribute to the spread of non-native invasive species in the allotments being analyzed in this document. However, improper grazing practices do reduce the diversity, and reproductive abilities of these native, desert plant communities (Boarman 1999). This in turn promotes the establishment and spread of non-native invasive species that now occupy habitat once primarily inhabited by native species. Improper grazing practices, which include year-long continuous use, often grazing the same area at the same time year after year may have contributed to a transition of the herbaceous ground cover to these four invasive and non-native species over a substantial portion of the western portion of the Ord Mountain Allotment. The palatability of non-native vs. native plant species to cattle varies based the species and phenological stage. Overall cattle prefer native forbs over non-native forbs, however non-natives forbs typically germinate earlier in the growing season and are generally

grazed in an earlier phenology stage than natives which can in some years favor native forbs in the production of seed into the seed bank. Depending on density, the utilization of native forbs can be lower than utilization levels on non-native forbs because native forbs are most palatable when there is the highest level of forage diversity available to the cattle.

Grazing practices that allow for periodic recruitment opportunities commonly have lower densities of non-native species and are more compatible with sustaining native plant communities. Under the proposed action, strict compliance with the grazing prescriptions contained in the ROD for the West Mojave Plan Amendment, and the 2006 Biological Opinion (1-8-03-F-58) for the WMP would aid, although not substantially in sustaining native plant communities and reduce the spread of non-native invasive species. The lowered utilization thresholds on key forage plants and other requirements should improve the overall trend of native plant communities.

Overall, the current densities of non-native invasive species on the allotments being analyzed in this document is consider moderate. Annual fluctuations in densities is directly influenced by the amounts of late winter, early spring precipitation, however the populations of these species is concentrated in the seed bank which only increases with flowering non-native plants.

b. No Action

Under the no action alternative, impacts to invasive, non-native species would be the same as the proposed action.

c. Cumulative Impacts

The spread and establishment of non-native invasive species occurs through a variety of mechanisms. The BLM's multiple use mission typically results in a variety of casual uses and activities that may be authorized to occur on the same lands. Other activities that may overlap grazing allotments include: utility corridors (including electrical towers and natural gas pipelines), casual recreation use (i.e., hunting, picnicking, vehicle touring, horseback riding, hiking in remote areas, camping, rock hounding, etc.), organized recreation activities (i.e. dual-sport, competitive activities in off-highway vehicle open areas), communication sites, scientific study, and mining activities. All of these activities, past, present, and future contribute to the spread and establishment of non-native invasive plant species.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

N/A

f. References:

Belsky, A. J. and J.L. Gelbard. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon Natural Desert Association. Bend OR.

Boarman, W. I. 2002. Threats to desert tortoise populations: A critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U. S. Geological Survey, Western Ecological Research Center. San Diego, CA.

H. NATIVE AMERICAN CONCERNS

1. Affected Environment

Six Native American tribes live near, or have interests in, one or more of the five cattle grazing allotments within the Barstow Field Area (see Table 6).

Table 6. Contacts for Section 106 Consultation.

Name	Tribal Affiliation	Address
Edward Tito Smith	Chemehuevi	1990 Palo Verde Road, P.O. Box 1976, Havasu Lake, CA 92363
Daniel Eddie, Jr.	Colorado River Indian Tribes	Route 1, Box 23B, Parker, AZ 85344
Elda Butler	Fort Mojave	P.O. Box 5990, Mohave Valley, AZ 86440
Chad Smith	Fort Mojave	P.O. Box 5990, Mohave Valley, AZ 86440
Nora Helton	Fort Mojave	500 Merriman Avenue, Needles, CA 92363-2229
Curtis Anderson	Las Vegas Piute	1 Piute Drive, Las Vegas, NV 89106
Georgia Kennedy	Timbisha Shoshone	P.O. Box 206, Death Valley, CA 92328
Shirley Summers	Timbisha Shoshone	P. O. Box 786, Bishop, CA 93515
Ann Brierty	San Manuel	P.O. Box 266, Patton, CA 92369

Currently, tribes are within allotment lands primarily for ceremonial purposes and collection of traditional herbs and plants, as well as the same uses as other casual land visitors. As with other native species, traditional herbs and plants may be adversely affected in areas where invasive species have become widespread.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

Impacts to Native American values from grazing would primarily be from the contribution of grazing practices to invasive species maintenance and spread in various allotments, and resulting reduced availability of native herbs and plants. Additional impacts may be identified during site-specific surveys of allotments.

b. No Action

Under the no action alternative, impacts to Native American values would be the same as the proposed action.

c. Cumulative Impacts

Cumulative impacts would be similar to those anticipated for invasive species, except that the effects on Native American values would result indirectly from loss of traditionally used native herbs and plants.

d. Consultation

Section 106 consultations on the proposed lease renewals for these allotments with the six tribes identified above were initiated in September, 2004. Comments and concerns regarding cultural and religious values within the allotments that may be affected by livestock grazing will also be solicited and incorporated into follow-up site-specific cultural evaluations for allotments when visited.

e. Maps

N/A

f. References:

N/A

I. RECREATION

1. Affected Environment

The Ord Mountain and Valley Well Allotments are within the Johnson-Stoddard Special Recreation Management Area (SRMA). This SRMA contains the Johnson and Stoddard Valley Off-Highway Vehicle Recreation Areas (OHV Areas) and the Ord Mountain Area that lies between them. The SRMA was established because of the historic high recreation opportunity and use in the OHV Areas and the additional recreation values and uses found in the Ord Mountain area. Both Johnson and Stoddard have management plans that identify how the areas will be managed with the emphasis being on off-highway vehicle uses and recreation.

Johnson and Stoddard Valleys receive over 100,000 off-highway vehicle visits per year. These visitors are involved in a large number of organized activities including over 50 events that are issued Special Recreation Permits. The permitted events include twelve car/truck races, thirty-five + motorcycle races, six rock crawling events, and other assorted events from time to time. The number of Special Recreation Permits is fairly stable, except for an increased interest in rock crawling.

Casual use of the OHV areas by individuals and family groups is widespread, particularly on weekends. The OHV areas also receive some use for non-OHV recreation. The most common of these is upland game hunting (in season), rockhounding, and general motor vehicle touring. There is a great deal of camping that takes place associated with OHV use.

Recreation opportunity and use in the Ord Mountain area is different than that found in Johnson and Stoddard. Use includes mostly non-OHV related activities like hunting, hiking, equestrian use, camping, picnicking, and photography. Some visitors use the area to cross from one OHV area to the other and return.

The Pahrump Valley allotment does not lie within any Special Recreation Management Area (SRMA). The area of the allotment has seen increased recreational use as the City of Pahrump continues to grow. The northern half of the allotment lies within the Nopah Range Wilderness Area and therefore is closed to vehicle and mechanical use. There are some interesting old mines in the area that attract the attention of those who are interested in that type of history.

A number of routes designated as open in the Northern and Eastern Mojave Routes of Travel Plan (2004) pass through the area. Casual use of the area by individuals and family groups is modest, even on weekends. The most common recreation activities are equestrian use, shooting, motorcycle and ATV use, and general motor vehicle touring. Most recreation activity takes place around the Pahrump Dry Lake (the eastern half of the lake is not wilderness) and the roughly fifteen public land sections to the south and east of the lake.

The Rattlesnake Canyon Allotment does not lie within any Special Recreation Management Area (SRMA). It does lie in a popular transition area between desert and mountains and provides a link to the SBNF recreational trail network. A number of routes designated as open in the West Mojave Route Designation EA (2003) pass through the area and it is an important "gateway" to provide access to points of interest west of Highway 247. Casual use of the area by individuals and family groups is common, particularly on weekends. The most common recreation activities are jeep tours down Rattlesnake Canyon, bird watching, hiking, photography, equestrian use, upland game hunting (in season), and general touring. There is a modest amount of camping that takes place throughout the area.

The Round Mountain Allotment does not lie within any Special Recreation Management Area (SRMA). It does lie within a popular transition area with diverse recreation opportunities. The allotment extends from the Deep Creek spillway area across the Juniper Flats Cultural ACEC to about a mile east of the Grapevine Canyon Road. This entire allotment fronts against the San Bernardino National Forest and people use it for access to the forest from below and to the Public Lands from above.

A number of routes designated as open in the West Mojave Route Designation EA (2003) pass through the area and it a different type of recreation than found over most of the desert because of the presence of trees and greater amounts of vegetation in general. Casual use of the area by individuals and family groups is common, particularly on weekends. The most common recreation activities are motorcycle riding, bird watching, hiking, photography, equestrian use, upland game hunting (in season), and general motor vehicle touring. There is a modest amount

of camping that takes place throughout the area. Many visitors use the area to access the Deep Creek Hot Springs on the forest. This hot springs is a popular destination that has visitation from around the world.

2. Environmental Consequences

a. Impacts of Proposed Action

While visitors using the north end of the Johnson Valley OHV Recreation Area and the east-central portion of the Ord Mountains would see cattle on occasion, there are no major conflicts between grazing and recreation. The overlap area in the northern end of Johnson Valley OHV Area and the Ord Mountain Allotment known as the "dog ears" which receives the lowest amount of overall use, but does contain the northern portion of a race course. There are localized conflicts between recreationalist and campers related to the presence of cattle dung, especially near watering or corral facilities.

In the Pahrump Valley Allotment, recreational use of the dry lake bed by OHV and wind sailing has increased substantially over the last six years. The lessee has expressed concerns about potential cattle/OHV conflicts on any given weekend. The livestock watering sources for this allotment consists of four reservoirs located on the dry lake bed. On the weekend the density of OHV on the dry lake bed can be heavy. Approximately half the dry lake bed is located within the Nopah Range Wilderness Area.

b. No Action

Under the no action alternative, impacts to recreation would be the same as the proposed action.

c. Cumulative Impacts

Since grazing has not affected overall recreational opportunities, and impacts are often subjective, any cumulative affects from the proposed action on recreation would be nominal.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

N/A

f. References: N/A

J. SOCIAL AND ECONOMIC VALUES

1. Affected Environment

The allotments being analyzed under the proposed action are located in rural San Bernardino and Inyo Counties. All of the allotments are primarily operated by the lessee, who may hire local labor on a seasonal basis. This labor typically consists of one to three persons.

The contribution of these allotments to the goods and services of the area is nominal. The sale of calves at the stock yard by the lessee benefits the financial needs of the lessee, as any small business would, and allows them to purchase goods and services for their grazing operation and personal household. These operations are generally small and their affect on the general economy is minor.

2. Environmental Consequences

a. Impacts of Proposed Action

Under the proposed action, grazing would continue at stocking rates prior to interim measures (see Table 1). These levels are at their lowest point when compared to historic levels, and are expected to continue to decrease. These grazing operations would continue to have a nominal influence on the local and regional economy of both San Bernardino and Inyo Counties.

b. No Grazing

Under the no action alternative, impacts to social and economic values would be the same as the proposed action.

c. Cumulative Impacts

There would be no meaningful, cumulative impacts to the local or regional economies of San Bernardino or Inyo Counties from the implementation of either the proposed action, or the no grazing alternative. The past, present, or future contributions of these operations to the local or regional economy would be nominal.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

N/A

f. References:

USDI, Office of Hearings and Appeal. 2001. Richard Blincoe and Blinco Farms, Inc. et al v Bureau of Land Management. CA-690-01-01. Administrative Law Judge Sweitzer.

K. SOILS

1. Affected Environment

Of the five allotments being analyzed in this document, three allotments, Round Mountain, Pahrump Valley and Valley Well have been partially mapped to the Order III soils survey level conducted by the NRCS. The soil classification of the other two allotments has not been mapped with any detail.

The Round Mountain Allotment is dominated by four complexes and associations: 1) The Arrastre-Rock Outcrop Complex is primarily a sandy loam, deep and well drained, with a moderate erosion potential; 2) The Bryman-Cajon Association is dominated by stone to gravelly sand, very deep and well drained, with a low to moderate erosion potential; 3) Crafton-Sheephead-Rock Outcrop Association is dominated by sandy loam to gravelly sandy loam, moderately deep and well drained to shallow and somewhat excessively drained, with a moderate erosion potential; and 4) Cushenbury-Crafton- Rock Outcrop Complex has a soil texture that is loamy sand to sandy loam, moderately deep and well drained, with a moderate erosion potential.

The Valley Well Allotment is mapped containing one soil association. The Helendale-Bryman Loamy Sand Association consists of a loamy sand texture, is deep and well drained, and has a slight erosion potential.

The Pahrump Valley Allotment is dominated by the following six soils and associations: 1) The Commski-Tanazza Association consists of very gravelly fine sandy loam to gravelly sandy loam, well drained, with a low erosion potential; 2) The Besherm-Tanazza Association consists of clay loam to silt loam, well drained, with a medium to high erosion potential; 3) Besherm clay loam, well drained, with high erosion potential; 4) The Wechech-Nopah-Yermo Association consists of gravelly loam to very gravelly sandy loam, well drained, with a very to high erosion potential; 5) Haymont very fine sandy loam, well drained, with a low erosion potential; and 6) Rumpah clay, well drained, with a very high erosion potential.

The soil classification of the other two allotments has not been mapped in detail. Based on general soils mapping by NRCS, soils associations in the Ord Mountain Allotment includes the Rock Land Association (dominantly exposed bedrock and very large boulders), Lava Flows Association (lava bedrock with small pockets of sand to loamy sand), Cajon Association (excessively drained, very deep, fine sands), Adelanto-Mohave Association (well drained, very deep, sandy loams), Mohave-Adelanto Varients Association (well drained, sandy loams, moderately deep to deep to caliche), Mohave Varient - Sunrise Association (moderately well drained and well drained, loamy fine sands, shallow to deep to caliche). The Rattlesnake Canyon Allotment includes the Ramona Association (well drained, very deep, coarse sandy loam), the Arizo-Daggett Association (excessively drained and some what excessively drained, very deep, gravely sands), and the Rock Land Association (dominantly exposed bedrock and very large boulders). Erosion potential of these soils ranges from slight to moderate. There are no

identified erosion problems on the allotment.
BLM assessed the Ord Mountain and Rattlesnake Canyon Allotments in 1999 and 2000 to determine if the rangeland health standards were being met. Specific soils standards relate to permeability and infiltration. All sites examined were found to meet the standards for soils.

2. Environmental Consequences

a. Impacts of Proposed Action

Under the proposed action, livestock grazing on the five allotments would continue to have a localized, negative affect on soils associated with congregation areas such as watering sites, and corrals through compaction. The vast majority of soils in these allotments would continue to achieve the soils standard.

b. No Action

Under the no action alternative, impacts to soils would be the same as the proposed action.

c. Cumulative Impacts

Under the proposed action, past present and future cattle grazing operations will continue to have a localized, cumulative impact on soils in congregation areas such as water sources and corrals. Other land uses such as OHV also contribute to compaction and accelerated erosion but on a broader scale.

d. Consultation

The local NRCS Office would be consulted concerning local soil surveys.

e. Maps

See the soils map contained in the Soil Survey of San Bernardino County California, Mojave River Area, the Southwest Desert Area Report and General Soils Map, and the Soil Survey of Nye County, Nevada, Southwest Part.

f. References:

National Resource Conservation Service. 2004. Soil Survey of Nye County, Nevada, Southwest Part.

National Resource Conservation Service. 1986. Soil Survey of San Bernardino County, California, Mojave River Area.

Soil Conservation Service. 1970. Southwestern Desert Area Report and General Soil Map, San Bernardino County, California.

L. WASTE, HAZARDOUS OR SOLID

1. Affected Environment

Detailed surveys of hazardous or solid waste have not been undertaken on these allotments. BLM maintains records of reportable spills on public lands, but these records are not yet entered into a searchable database. Some previous sites and current sites that are awaiting cleanup are known to exist within the allotments. These are primarily associated with historic mining activities, illegal disposals on public lands, occupancy trespass, wire burns, and drug production activities. None are known to have harmed livestock. No sites are specifically associated with livestock operations, although use of motorized vehicles and equipment by the livestock operator may have resulted in low volume, periodic and scattered spills or releases of fuel and petroleum products in the allotment. None have been documented that have exceeded deminimus levels to be considered a release.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

As a result of implementing the proposed action low volume, periodic and scattered spills or releases of fuel and petroleum products in the allotments would continue. These spills and releases are more likely to occur at wells and corral sites on public land where facilities and vehicles used in the livestock operations most often congregate. Fencing adjacent to valued springs and riparian areas would continue to prevent large releases into natural water sources. No increases in low volume, periodic and scattered spills or releases of fuel and petroleum products above what has been discussed is anticipated in the allotments being analyzed. The VR of three allotments may result in more dumping on those allotments because the land is not being used by a grazing lessee.

b. No Action

Under the no action alternative, impacts to hazardous or solid waste would be the same as the proposed action.

c. Cumulative Impacts

Localized cumulative impacts to ground water may have occurred and may continue to occur at well and corral sites on public land from 20 to 60 years of presence. The congregation of facilities at these sites may be a point sources for very low levels of ground water pollution on a very localized scale, depending on the types of fuels used by lessees and depth to water table.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

N/A

f. References: N/A

M. WATER QUALITY, SURFACE AND GROUND WATER

1. Affected Environment

There are twenty-one developed and undeveloped water sources that provide surface water to livestock in the five allotments being analyzed in this document. The vast majority of these sources are developed springs. Most, but not all of the developed spring sources have been fenced to protect water quality and riparian habitat. At all of the developed springs, water has been piped away from the source to troughs for consumption by livestock and wildlife. Very limited water quality and flow data has been collected at any of these sources. None of the spring sources are associated with human consumption, or are required to meet drinking water standards. None of the spring sources provide habitat for any federally listed species. Arrastre and Cottonwood Creek both provide migratory habitat for two federally listed neo-tropical bird species.

There are two water wells on public land associated with livestock grazing within the boundaries of the five allotments. These two wells are under the jurisdiction of the San Bernardino County Environmental Health Department and must comply with strict standards to prevent ground water contamination. The Mojave Water Agency considers these well as "minimum consumers" of ground water, which means they consume less than ten acre feet/year.

2. Environmental Consequences

a. <u>Impacts of Proposed Action</u>

There are no known negative affects to water quality at the developed water sources available to livestock. Most of the sources are protected from contamination from livestock by fencing or natural/man-made features and the water is piped to a trough. Livestock would still have limited access to Cottonwood and Arrastre Creek. There are no known levels of surface water contamination resulting from this access, however unidentified levels of fecal coliform contamination are possible. Because livestock presence is restricted to winter use only, any contamination resulting from livestock use would dissipate over time. There may be some level of "de-watering" associated with providing drinking water to livestock from springs with finite sources. However, overall impacts to water quantity within watersheds that overlap allotment boundaries from cattle grazing operations on public land is considered nominal

A program-wide water quality monitoring strategy has yet to be adopted for the Barstow Field Office. Best Management Practices (BMP) for water quality are being developed for public

lands in California, including the California Desert District (CDD) and would be adopted upon approval. Regional Rangeland Health Standards, which include a standard for water quality have been approved by the State Director for the CDD which include the five allotments being analyzed in this document.

Under the proposed action, natural water sources available to livestock will be evaluated for threats to water quality and riparian values. The appropriate management action(s) would be implemented based on the specifics of the situation, including, but not limited to, actions such as fencing, placement of additional troughs and re-design of the facility.

b. No Action

Under the no action alternative, impacts to water quality would be the same as the proposed action.

c. Cumulative Impacts

Springs have been developed and water wells have been dug within the planning area for use by livestock for over 100 years. There may be localized cumulative impacts to water resources based on the volumes extracted over time, re-charge rates and water quality. Overall, livestock grazing operations in the planning area continue to decrease, both in numbers of animals and in the number of viable ranching operations that remain. Extractions from these same aquifers from other sources, on the other hand, have been steadily increasing to the point that the aquifers overall may be overdrafted as the in the case of the Mojave River Basin. The contribution of the livestock industry to regional water use is declining over time, is not a substantial percentage of the total water use, and existed before overdraft conditions began. It is anticipated that this trend will continue. Therefore, from a regional perspective these developments do not represent a substantial cumulative impact to water resources.

d. Consultation

Lahontan Regional Water Quality Control Board

e. Maps

N/A

f. References:

Lahontan Regional Water Quality Control Board. 1994. Water Quality Control Plan for the Lahontan Region.

N. WETLANDS/RIPARIAN ZONES

1. Affected Environment

Water sources in the Mojave Desert are rare and occur as seeps and springs. Natural water sources occur on the Ord Mountain, Rattlesnake Canyon, and Round Mountain allotments. Springs are generally small and are associated with prominent mountain ranges. Vegetation associated with these springs generally consists of small herbaceous plants, but may include riparian shrubs and trees. These species include inland saltgrass (*Distichlis spicata*), sedge (*Carex spp.*), bull rushes (*Scirpus spp.*), coyotebrush (*Baccharis spp.*), and willow (*Salix spp.*). Springs provide much needed water to wildlife species that require a perennial water source. Both game and non-game species routinely visit springs in the desert. Endemic micro fauna can also be found inhabiting these rare water sources.

Wetland areas (springs) that are located in allotments have been assessed using a modification of a tool that evaluates the proper functioning condition for lentic areas. The method uses a standardized, qualitative method called proper functioning condition or PFC (Prichard 1998). The PFC method separates the wetland into three major components: hydrology, soils, and vegetation. Each component is addressed according to its site potential. Together, these three components allow an interdisciplinary team to assess the functionality of the physical processes of a spring. Functionality is described using three specific terms: functional (F), functional at risk (FAR), nonfunctional (NF), and unknown (UK). These terms are defined below:

Functional (PFC) - A riparian-wetland area has adequate vegetation, landform, or large woody debris to: dissipate stream energy, capture bedload, support vegetative growth to support streambanks, to provide diverse habitat, support greater biodiversity.

Functional at Risk- Riparian-wetland areas that are in functional condition, but an existing soil, water, or vegetation attribute makes them susceptible to degradation. The functional at risk term is further defined with an indication of trend either downward or upward.

Nonfunctional- Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows, and thus are not reducing erosion, improving water quality, etc.

Unknown- Riparian-wetland areas lack sufficient information to make any form of determination.

Several springs have been evaluated using PFC methodology in the Ord and Rattlesnake allotments. No information exists for springs outside these allotments. Evaluated springs have been compiled into Table 7 displayed below.

Table 7. Proper Functioning Condition of Evaluated Waters in Cattle Allotments

Spring	Allotment	PFC Compl.	PFC Rating	Cattle Excluded
Upper Sweetwater	Ord Mountain	N	UK	No
Lower Sweetwater	Ord Mountain	Y	FAR – Upward Trend	Yes
Willow	Ord Mountain	Y	FAR – Downward Trend	No

Quill	Ord Mountain	Y	NF	Yes
Kane	Ord Mountain	Y	FAR - Downward Trend	No
Viscera	Rattlesnake Canyon	Y	FAR – Upward Trend	Yes
Vaughn	Rattlesnake Canyon	Y	FAR – Upward Trend	Yes
Middle Rattler	Rattlesnake Canyon	N	NF	No
Mound	Rattlesnake Canyon	Y	FAR - Static	Yes
One Hole	Rattlesnake Canyon	Y	FAR – Upward Trend	Yes
Two Hole	Rattlesnake Canyon	Y	FAR - Static	Yes
Rattlesnake	Rattlesnake Canyon	Y	FAR – Upward Trend	Yes
Kynna	Rattlesnake Canyon	Y	NF	No
Bighorn Seeps	Rattlesnake Canyon	Y	NF	No
Cottonwood Creek	Round Mountain	Y	PFC	Yes
Lovelace Creek	Round Mountain	N	UK	No
Arrastre Creek	Round Mountain	Y	PFC	Yes
Stone	Round Mountain	Y	PFC	Yes
Round Mtn.	Round Mountain	Y	UK	No

2. Environmental Consequences

a. <u>Impacts of Proposed Action (WMP)</u>

If not fenced out, or modified for avoidance cattle may trample vegetation resulting in a decrease in vigor or complete elimination of vegetation from the vicinity of the spring, where otherwise vegetation would be robust and often unique to the wetter microclimate. Hoof action typically creates divots known as “punching” in wet soils, can increase erosion, and can create poor water quality at springs.

The degenerative impacts of cattle intrusion at springs can be avoided by fencing cattle out of springs. Fencing has been constructed at Lower Sweetwater spring with positive results. Impacts described above still occur at troughs but do not degrade the springs and the surrounding riparian vegetation.

The riparian areas identified in Table 8 that are currently non-functional, or functioning at risk with a downward trend must eventually conform with Regional Rangeland Health Standards. To conform with the riparian standard these spring sites may require modifications that could include fencing, adding additional troughs, re-routing pipelines systems and placing shut-off

devices (floats) within the water delivery system. The placement of salt and/or mineral blocks would be prohibited within one-quarter mile of these springs.

b. No Action

Under the no action alternative, impacts to wetlands/riparian habitat would be the same as the proposed action.

c. Cumulative Impacts

The BLM's multiple use mission typically results in a variety of activities that are authorized to occur on the same lands. Other activities that may overlap grazing allotments include: utility corridors (including electrical towers and natural gas pipelines), general recreation (i. e. hunting, picnicking, camping, and rock hounding), scientific study, and off-highway vehicle (OHV) activities. These activities are not anticipated to adversely impact springs since most springs cannot be accessed by motor vehicles. There is foot traffic to springs to picnic and enjoy the shade, flora and fauna. Foot traffic also increases in the vicinity of some of the springs during hunting season, but has not resulted in cumulative effects to riparian vegetation. The fencing of springs has reduced impacts from both cattle and humans coming to enjoy what springs have to offer.

d. Consultation

Consultation would occur with all lessees, interested publics, county governments, and Native American tribes with traditional ties to the lands within the allotments being analyzed.

e. Maps

N/A

f. References: N/A

Prichard, Don. 2003. A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lentic Areas. TR 1737-16. Bureau of Land Management. BLM/RS/ST-03/001+1737, Denver, CO. 109 pp.

O. WILD AND SCENIC RIVERS

1. Affected Environment

The proposed action or any alternative would have no affect on wild and scenic rivers because no wild and scenic rivers are present in the allotments being analyzed.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

Same as above.

b. <u>No Grazing</u>

Same as above.

c. <u>Cumulative Impacts</u>

There would be no cumulative impacts from the proposed action, or any alternative.

d. Consultation

N/A

e. Maps

N/A

f. References: N/A

P. WILDERNESS

1. Affected Environment

<u>Ord Mountain Allotment</u> <u>(formerly "Newberry/Ord")</u>

This allotment (148,666 acres1) overlaps 23,907 acres (est.) of wilderness. Approximately 6,938 acres overlap the **Newberry Mountains Wilderness** and 16,969 acres overlap the **Rodman Mountains Wilderness**.2 The Newberry Mountains Wilderness totals 20,308 acres, and the Rodman Mountains Wilderness totals 29,793 acres3. The wilderness areas were established 31 October 1994, with passage of the California Desert Protection Act. BLM has yet to complete wilderness management plans for these two designated wilderness areas.

In 1990, BLM described wilderness 'values' as follows:

> Newberry Mountains Wilderness:
> Natural Conditions: "… essentially void of human intrusions and affected primarily by the forces of nature."
> Solitude: "..the area's secluded valleys and deep canyons offer an outstanding opportunity to escape the rest of humanity."
> Primitive and Unconfined Recreation: "Opportunities are outstanding for primitive recreation."
> Special Features: Historic desert bighorn habitat, a bighorn guzzler

1 BLM-BFO estimate
2 BLM-BFO GIS calculations (Jackson, 12 July 04)
3 *www.ca.blm.gov/pa/wilderness/wa/wa_lister.html*

constructed by the California DFG, and eyries/foraging area for golden eagles and prairie falcons.

Rodman Mountains Wilderness
Natural Conditions: "[P}redominantly natural with negligible human imprints."
Solitude: "[E]xcellent opportunities for solitude."
Primitive and Unconfined Recreation: "… quality opportunities for primitive and unconfined types of recreation."
Special Features: "… significant cultural resources and Native American concerns."

Grazing Use Levels
In 1980, the CDCA Plan (1980) represented existing grazing use, after adjustment, as 773 AUMs. [Livestock Renewable Forage Allocation, CDCA Plan, 1980, p.76]. In 1983 (May 16), Amendment #11 (CDCA Plan, 1980, as amended) changed the allotment name from "Newberry/Ord" to "Ord Mountain", enlarged the allotment eastward, overlapping Rodman Mountains WSA lands BLM had recommended "suitable" for wilderness designation, and, without stating an AUMs number, provided that "Preference would not be granted until after Congress decides on wilderness status." AUMs were to be "temporary nonrenewable" until Congress' wilderness decision. In 1985 (18 Nov), BLM/Barstow approved the Newberry/Ord Allotment Management Plan (AMP) which allocated AUMs for all three land area units viewed as comprising the "Ord Mountain Allotment", and imbuing those 'allocations' with a grazing "preference" of 3,311 AUMs.

Under the proposed authorization, grazing use would increase to 3,632 AUMs from the allocation cited in the CDCA Plan. However, the allocation for this allotment has been 3,632 AUMs since the approval of the AMP in 1984.

"Improvements": BLM is aware of no improvements, whether range or wildlife, within either of the Allotment/Wilderness overlaps.

Motor vehicle uses are routine in the allotment/Rodman Mountains Wilderness overlap, particularly in the Surprise Tank vicinity, and, to a much lesser extent, in Box Canyon. These intrusions also occur, but are much less serious, in the allotment/Newberry Mountains Wilderness overlap off Camp Rock Road. Based on communication with the lessee the vast majority of motorized vehicle use in wilderness is not connected to motorized vehicle use in wilderness necessary to facilitate the grazing operation.

Other Current Uses; Conflicts: Removal and damage of wilderness boundary markings is a matter of routine.

Pahrump Valley Allotment

This allotment (26,224 acres) overlaps 15,180 acres (est.) of the **Nopah Range Wilderness** (72,468 acres). The wilderness was established in1994 with passage of the California Desert Protection Act. BLM has yet to complete wilderness management plans for this designated

wilderness area.

In 1990, BLM described Nopah Range WSA 'values' as follows:

> Natural Conditions: "The recommended suitable portion of the WSA is virtually void of all human intrusions with the following exceptions." [3 bighorn sheep guzzlers]. "… the nonsuitable area of the WSA … is generally void of human activity."
> Solitude: "Within the nonsuitable portion, there are quality opportunities for solitude. However, these opportunities are limited in specific areas by human impact. This is especially true on the northeastern bajada where the existing access routes are not screened by vegetation or topography."
> Primitive and Unconfined Recreation: "Where access routes impact the nonsuitable portion, opportunities for primitive recreation can be reduced."
> Special Features: No information specific to public lands within the current allotment.

Grazing Use Levels
In 1980, the CDCA Plan represented existing grazing use, after adjustment, as 353 AUMs. [Livestock Renewable Forage Allocation, CDCA Plan, 1980, p.76]. In 1999, grazing use for this allotment, after adjustment, was represented as 353 AUMs [Livestock Renewable Forage Allocation, CDCA Plan, 17 Aug 1999 reprint, p. 65].

Under the proposed authorization, grazing use would remain at 353 AUMs.

"Improvements": BLM is aware of range improvements in the form of water basins bulldozed in the dry lake bed within the allotment/wilderness overlap. Some are evident on the 1984 Provisional Edition USGS 7.5-minute quads. BLM is aware of no wildlife improvements within the overlap.

Prohibited Uses: Motor vehicle intrusions of all types are routine in the allotment/wilderness overlap, particularly on the surfaces of the wilderness portion of Pahrump Dry Lake. Such use is especially evident in association with Independence Day celebrations, when use of fireworks on the dry lakebed minimizes fire risks while sidestepping Nye County prohibitions on fireworks possession.

Other Current Uses; Conflicts: BLM is aware that unauthorized use of motor vehicles within the allotment/wilderness overlap has been troublesome for the lessee.

Rattlesnake Canyon Allotment

This allotment (26,623 acres) includes an estimated 9,8344 of the **Bighorn Mountain Wilderness**' 26,702 acres. The wilderness was established 31 October 1994, with passage of the California Desert Protection Act. BLM has yet to complete the wilderness management plan for this designated wilderness area.

4 BLM-BFO GIS calculation (Jackson, 12 July 2004)

In 1990, BLM described Bighorn Mountain WSA values as follows:

> Natural Conditions: Lands inside the recommended "suitable" units were largely undisturbed by man and affected primarily by the forces of nature. Lands outside the units showed numerous intrusions.
>
> Solitude: Topography and vegetation in the recommended "suitable" units allow ample opportunities for visitors to screen themselves from other visitors and other human sights and sounds.
> Primitive and Unconfined Recreation: Within the suitable units, opportunities are outstanding for primitive recreation. They are lacking in the non-suitable lands because routes of travel compartmentalize the area.
>
> Special Features: Desert bighorn sheep habitat (no recent sightings). Some desert tortoise habitat, population densities of < 20 tortoise per square mile. Includes the site of the marker commemorating the 1909 manhunt for "Willie Boy".

Grazing Use Levels
In 1980, the CDCA Plan represented existing grazing use, after adjustment, as 1,044 AUMs. [Livestock Renewable Forage Allocation, CDCA Plan, 1980, p.76]. In 1999, grazing use for this allotment was represented as 1,044 AUMs [Livestock Renewable Forage Allocation, CDCA Plan, 17 Aug 1999 reprint, p.65]. Under the proposed authorization, grazing use would remain unchanged at 1,044 AUMs.

"Improvements": BLM is aware of no range or wildlife improvements currently within the allotment/wilderness overlap.

Prohibited Uses: OHV intrusions in the allotment/wilderness overlap are not unusual, primarily up-drainage in Rattlesnake Canyon washes to the east and west.

Other Current Uses; Conflicts: Removal and damage of wilderness boundary markings is a matter of routine.

Round Mountain Allotment

No wilderness or WSA overlap.

Valley Well Allotment

No wilderness or WSA overlap.

2. Environmental Consequences

The proposed action is a renewal of the current leases. The impacts of the proposed action include current effects as mitigated by actions that may be taken under existing leases and the fallback standards.

1. Impacts of Proposed Action (WMP)

Ord Mountain Allotment (formerly "Newberry/Ord")

Grazing currently affects wilderness as follows:
Natural Conditions: Accessible, palatable plants are consumed while unpalatable and/or inaccessible plants are not. This causes vegetation communities to be altered repetitively in the same fashion over the term of a grazing lease or permit. This prevents plant communities from sustaining themselves in an untrammeled (i.e., unhampered, unfettered) manner, and prevents them from evolving in that manner, particularly in heavily used areas (i.e., in the vicinity of ephemeral waters).

Solitude: If "solitude" is construed to mean seclusion from other human beings, then the current effect of grazing on this "value" is limited to those occasions when the lessee and/or their agents are actively pursing grazing operations in the wilderness, and when BLM officials, in the performance of their administrative duties, are actively pursing such duties in the wilderness.
Primitive & Unconfined Recreation: The current effect of grazing on this "value" appears to be 'no substantive effect'. There is no developed facility within the allotment/ wilderness overlap, and mechanical transport supporting the big game guzzler in the Newberry Mountains Wilderness does not require use of wilderness surfaces within that overlap.

Special Features: The current effect(s) of grazing on cultural resources, Native American concerns, raptors, and bighorn sheep habitat are addressed under other Elements of this Environmental Assessment. The bighorn sheep guzzler is not located within the Allotment/Wilderness overlap.

Pahrump Valley Allotment

Grazing currently affects wilderness as follows:

Natural Conditions: Accessible, palatable plants are consumed while unpalatable and/or inaccessible plants are not. This causes vegetation communities to be altered repetitively in the same fashion over the term of a grazing lease or permit. This prevents plant communities from sustaining themselves in an untrammeled (i.e., unhampered, unfettered) manner, and prevents them from evolving in that manner, particularly in heavily used areas (i.e., in the vicinity of range improvements and ephemeral waters).

Solitude: If "solitude" is construed to mean seclusion from other human beings, then the current effect of grazing on this "value" is limited to those occasions when the lessee and/or their agents are actively pursing grazing operations in the wilderness, and when BLM officials, in the performance of their administrative duties, are actively pursing such duties in the wilderness.

Primitive & Unconfined Recreation: The current effect of grazing on primitive and unconfined recreation should be "no substantive effect".

Special Features: BLM is aware of no such features within the allotment/Wilderness overlap.

Rattlesnake Canyon Allotment

Grazing currently affects wilderness as follows:

Natural Conditions: Accessible, palatable plants are consumed while unpalatable and/or inaccessible plants are not. This causes vegetation communities to be altered repetitively in the same fashion over the term of a grazing lease or permit. This prevents plant communities from sustaining themselves in an untrammeled (i.e., unhampered, unfettered) manner, and prevents them from evolving in that manner, particularly in heavily used areas (i.e., in the vicinity of ephemeral waters).

Solitude: If "solitude" is construed to mean seclusion from other human beings, then the current effect of grazing on this "value" is limited to those occasions when the lessee and/or their agents are actively pursing grazing operations in the wilderness, and when BLM officials, in the performance of their administrative duties, are actively pursing such duties in the wilderness.

Primitive & Unconfined Recreation: The current effect of grazing on 'primitive and unconfined recreation would be of minimal effect.

Special Features: BLM is aware of no recent sightings of bighorn sheep within the allotment/wilderness overlap. Current effect(s) of grazing on desert tortoise are addressed under another Element(s) of this Environmental Assessment. The "Willie Boy" manhunt memorial is located outside of the overlap.

Minimum Administrative Requirement

Impacts [Wilderness Act Sec.4.(c)] This proposal is silent as to BLM's need to use temporary road(s), motorized equipment, aircraft, any other form of mechanical transport, or grazing-related structure(s) or installation(s) in wilderness. Given the proposed 'measures to maintain or achieve standards' and 'monitor' the allotments, use of motorized vehicles and/or mechanical transport seems plausible and appropriate. Although the proposal does identify future maintenance needs in the Pahrump Valley Allotment.

Proper Establishment of Grazing Uses: Wilderness Act Section 4.(d)(4)(2) "permits" continued grazing of livestock in wilderness where such grazing use was "established" before an effective date. In the case of these allotments, that date is October 31, 1994, when the California Desert Protection Act was signed.

Conclusive Finding of No Adverse Impacts to Wilderness: In the applicable Appendix A – Grazing Guidelines, Congress anticipates that, when an area becomes formal wilderness, grazing uses of those lands would remain "approximately" unchanged. Expecting proposals for some increase of those uses, Congress makes increase permissible if "land management plans reveal conclusively" that the increase "could be made available with no adverse impacts on wilderness values such as plant communities, primitive recreation, and wildlife populations or habitat."

However, Congress makes it clear that this is not to imply that wilderness lends itself to grazing use increases and construction of substantial new facilities appropriate for intensive grazing outside wilderness.

Other Authorized Access (Motorized Vehicle)
This proposal does identify the need to use motorized/mechanized access to perform needed maintenance on stock ponds in the Nopah Wilderness. BLM foresees that such access could be a substantive aspect of appropriate grazing activities in the Pahrump Valley Allotment, and that appropriate terms and conditions for access should be included in the leases enabled by the authorization proposed. [43 CFR 6305.30 (16 Jan 2001); BLM Manual 8560.37A.3.; Appendix A – Grazing Guidelines, H. Rept. 101-405]. However, the proposal indicates that would be a future action.

b. <u>No Action</u>

Under the no action alternative, impacts to wilderness values would be the same as the proposed action.

c. <u>Cumulative Impacts</u>

Geographic Scope: BLM-managed lands affected by two allotment / wilderness overlaps (Newberry Mountains Wilderness; Rodman Mountains Wilderness).

Pertinent federal statute directs: "The fact that non-wilderness activities or uses can be seen or heard from areas within a wilderness area shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area." ["California Desert Protection Act", 1994, Sec. 103(d)].

Under this directive, BLM expressly is not to "preclude" grazing activities or uses outside wilderness solely because they are occurring, or would occur, up to the boundaries of a wilderness area(s), and/or are visible or audible, or would be visible or audible, from within wilderness. However, with operative clarity, Sec. 103(d) does not expressly prohibit BLM, given a substantive rationale, from modifying such activities or uses.

d. Consultation

Notice of Proposed Action issued on April XX, 2006 to wilderness mailing list.

e. Maps - N/A

f. References:

Wilderness "Values" *[California Statewide Wilderness Study Area Report, BLM, 1990, Part 4, Volume 5, CDCA-251, p.6]*.
Appendix A (Grazing Guidelines) of the Report of the Committee on Interior and Insular Affairs to accompany H.R. 2570 of the One Hundred First Congress (H. Rept. 101-405).
Arizona Desert Protection Act (P. L. 101-628, 28 November 1990)

BLM/CDD Estimates of Allotment Acreages (need date)
California Desert Conservation Area Plan (BLM, 1980, as amended)
California Desert Protection Act (P. L. 104-433, 31 October 1994)
California Statewide Wilderness Study Area Report (BLM, 1990, Part 4, Volumes 4 & 5).
Federal Land Policy & Management Act (P. L. 94-579, 21 October 1976)
Norton, Secretary of the Interior, et al., v. Southern Utah Wilderness Alliance et al., No. 03-101,542 U. S. ___ (2004), decided June 14, 2004)
Wilderness Act (P. L. 88-577, 3 September 1964)

Q. WILD HORSES AND BURROS

1. Affected Environment

The proposed action or any alternative would have no affect on wild horse and burros because no wild horse and burros are present in the allotments being analyzed.

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

There would be no impacts from the proposed action.

b. No Action

Same as above.

c. Cumulative Impacts

There would be no cumulative impacts from the implementation of the proposed action.

d. Consultation

N/A

e. Maps – N/A

f. References: **N/A**

R. WILDLIFE

1. Affected Environment

Common Animals
Common species of animals found in most vegetation communities within the allotments (see Vegetation, Affected Environment) include: woodrats (*Neotoma* spp.), kangaroo rats (*Dipodomys* spp.), white-tailed antelope ground squirrels (*Ammospermophilus leucurus*), black

tailed hares (*Lepus californicus*), kit foxes (*Vulpes macrotis*), and coyotes (*Canis latrans*). Common bird species include mourning doves (*Zenaida macroura*), black-throated sparrows (*Amphispiza bilineata*), common ravens (*Corvus corax*), and horned larks (*Eremophila alpestris*). Some common reptiles include the side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), gopher snake (*Pituophis melanoleucus*), and the Mojave rattlesnake (*Crotalus scutulatus*).

BLM Sensitive Wildlife Species

Several sensitive wildlife species occur on lands proposed for grazing. Their regulatory status and habitat preference are indicated in Table 8. There are several avian species, one large mammal and one reptile. Three of these species - golden eagle, prairie falcon and bighorn sheep are associated with mountainous terrain and can be found in the Ord Mountain Allotment. The rattlesnake allotment contains a historic bighorn sheep range. No evidence exists of their presence today. Gray vireos are known to occur on the arid slopes of the Round Mountain allotment.

Table 8. Sensitive Wildlife Species Within Cattle Allotments

Species Name	Regulatory Status	Preferred Habitat
Bighorn Sheep (*Ovis Canadensis nelsoni*)	BLM Sensitive	Steep Mountainous Terrain
Mojave Fringed-toed Lizard (*Uma scoparia*)	California Species of Special Concern	Wind-blown Sand
Golden Eagle (*Aquila chrysaetos*)	BLM Sensitive; California Fully Protected	Mountainous Terrain, Cliffs
Priarie Falcon (*Falco mexicanus*)	California Species of Special Concern	Mountainous Terrain, Cliffs
LeConte's Thrasher (*Toxostoma lecontei*)	California Species of Special Concern	Creosote Bush Scrub, stands of cholla, Joshua trees, and thorny shrubs
Burrowing Owl (*Athene cunicularia*)	California Species of Special Concern	Creosote bush scrub
Gray Vireo (*Vireo vicinior*)	BLM Sensitive; California Species of Special Concern	arid slopes dominated by short, densely branched, stiff-twigged shrubs

Threatened or Endangered Wildlife Species:

Desert Tortoise

The tortoise was listed as threatened in 1990 by the Fish and Wildlife Service and has been listed as threatened by the California Department of Fish and Game since 1989. The USFWS designated four critical habitat units (CHU) within the planning area in 1994. One allotment, Ord Mountain occur within a CHU. The Bureau has also categorized desert tortoise habitat into three categories named I, II, and III (BLM and CDFG 1992). These categories have been reduced by the West Mojave Plan to only two categories in the planning area: habitat inside a

DWMA and habitat outside a DWMA.

The desert tortoise (*Gopherus agassizii*) is widely distributed across the California desert and is known to occur on all but one allotment. Field surveys have been conducted throughout the California Desert since the tortoise was listed. Tortoise presence/absence and tortoise densities have been reported in the West Mojave planning area. Tortoise concentration areas have been identified within the following allotment: Ord Mountain.

Mohave Ground Squirrel

A discussion of current range, status and potential impacts to the Mojave ground squirrel (*Xerospermophilus mojavensis*) has been discussed in detail in Chapter 3 of the West Mojave Plan. Only a brief summary of that discussion is provided below.

The Mojave ground squirrel (MGS) is a relatively small squirrel with few close relatives. Almost the entire range of the MGS is included within the West Mojave planning area, and the Harper Lake allotment is the only allotment that is located within the known range of the Mojave ground squirrel. The squirrel is listed under the California Endangered Species Act (ESA) as Threatened throughout its range but is not afforded protection under the Federal ESA. The MGS is closely associated with perennial shrubs such as winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), and saltbush (*Atriplex* sp.).

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

Common Animals

Most wildlife species are mobile and can avoid being trampled by cattle. Impacts to wildlife are typically indirect. Cattle may impact wildlife indirectly by modifying habitat on which wildlife depend. Cattle can modify habitat by disrupting soils and damaging vegetation. Soils are impacted through hoof shearing and by soil compaction. Vegetation can be removed if trampled or overgrazed. Impacts identified above typically occur near salt licks and watering holes where cattle congregate. Soil compaction typically occurs along cattle trails, however this compaction is very localized and limited and the impact to common animals is generally negligible.

Desert Tortoise

Literature regarding direct and indirect impacts of livestock grazing to rangeland and desert tortoise habitat has been critically reviewed in an unpublished document by the U. S. Geological Survey (USGS) (Boarman 2002). A brief summary of that review follows below. The critical review analysis reported a paucity of information available on the effects of grazing on the Mojave ecosystem.

Indirect impacts to tortoise habitat were evaluated by reviewing studies on livestock grazing effects on plant communities in other arid and semi-arid regions. Direct impacts were evaluated by reviewing reported observations and anecdotes. Potential indirect impacts mentioned in the text include: an altered plant community structure, soil compaction, disturbed cryptogamic soils, increased fugitive dust and erosion. Little information was found describing direct impacts to

tortoises except that some accounts reported that livestock have crushed juvenile tortoises by stepping on them. Also, it has been reported that livestock have crushed tortoise burrows resulting in injured tortoises or a damaged burrow. In-depth research on the direct impacts of livestock grazing on tortoise appears to be lacking.

Under the proposed action cattle grazing would be deferred during the critical growing period (March 1 to June 15) for both perennial and annual native species if the biomass production on annual vegetation is less than 230 Ibs./acre. This deferment is in the Ord-Rodman DWMA for the Ord Mountain Allotment. This management action would tend to benefit habitat quality for the desert tortoise over time. However, in the Ord Mountain Allotment degraded tortoise habitat has been identified for the western portion of the allotment where cattle would be allowed to graze during the critical growing period. This is contrary to improving already identified degraded habitat for the desert tortoise. Deferment of grazing use in areas with degraded habitat quality, limiting utilization levels allotment wide and reducing stocking rates are positive actions for improving habitat quality. Under this alternative, deferment of grazing use on the Ord Mountain Allotment would only occur on average five years out of ten so any benefit to desert tortoise habitat would be negligible at most.

Mojave Ground Squirrel
Potential impacts of grazing to MGS habitat is discussed in the West Mojave Plan/Final EIS. Impacts identified include direct competition for food, trampling of burrows, and changes to vegetative structure. The food preferences of MGS overlap with those plants preferred by livestock. Also, drought is thought to exacerbate competition for food.

Sensitive Wildlife Species
Direct impacts are not anticipated to occur to sensitive wildlife. All the species listed above are mobile and can avoid being injured. Although cattle can degrade habitat, most impacts are localized. Therefore, grazing is not anticipated to indirectly impact either of the sensitive wildlife species listed above.

There are no known federally listed wildlife species within the Round Mountain Allotment, therefore the proposed action would have no affect on federally listed wildlife species.

b. <u>No Action</u>

Under the no action alternative no exclusion areas would be established. Cattle grazing would be allowed in all desert tortoise habitat regardless of ephemeral plant production. In years of low ephemeral production typically occur in years of below normal precipitation. If competition for scarce forage between cattle and desert tortoise exists, it would occur then. Under this scenario the desert tortoise would be substantial stressed and reproduction would be minimal or foregone.

c. <u>Cumulative Impacts</u>

The BLM's multiple use mission typically results in a variety of activities that are authorized to occur on the same lands. Other activities that may overlap grazing allotments include: utility corridors (including electrical towers and natural gas pipelines), general recreation (i. e. hunting,

picnicking, camping, and rock hounding), scientific study, and off-highway vehicle (OHV) use.

Direct and indirect impacts to wildlife may occur from these activities. Slower, less mobile wildlife species such as the desert tortoise may not be able to escape being injured or killed by fast moving recreational vehicles or heavy equipment. Indirectly, these activities have the potential to degrade habitat by modifying soil structure, and removing vegetation. Habitat is impacted by recreational vehicles in localized areas where favorite trails or hill climbs exist. Power lines and natural gas pipelines remove portions of habitat for construction work areas that require many years to restore. Mining actions result in localized areas of intense use (i.e. rock quarries).

The Bureau minimizes these disturbances through the planning process. Linear projects are co-located in designated utility corridors. Routes of travel have been designated for recreational vehicle use. Biological monitors are often employed to avoid tortoise mortalities during ground disturbing projects operating in tortoise habitat.

In comparison to the activities identified above, relatively few impacts occur to wildlife that are attributed to cattle grazing. When rangeland health standards are met, forage is left for herbivorous wildlife. Soil compaction and vegetation degradation are primarily localized near congregation areas.

The cumulative impacts of cattle/horse grazing on the desert tortoise in the West Mojave Bioregion are currently under review in conjunction with analysis of DWMA alternatives for the recovery of the species.

d. Consultation

The BLM has formally consulted with the FWS on five occasions regarding livestock grazing in desert tortoise habitat. The BLM is proposing to issue grazing leases under the most recent biological opinion dated January 9, 2006.

e. Maps

N/A

f. References:

Boarman, W. I. 2002. Threats to desert tortoise populations: A critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U. S. Geological Survey, Western Ecological Research Center. San Diego, CA.

Fish and Wildlife Service. 1994a. Biological opinion for the Bureau of Land Management's interim livestock grazing program in Mojave desert tortoise critical habitat (1-8-94-F-107). Memorandum from Regional Director, Region 1 to State Director, Bueau of Land Management, Sacramento, California. Dated April 20. Portland, Oregon.

Fish and Wildlife Service. 2002. Biological opinion for the California Desert Conservation Area Plan [Desert Tortoise] (1-8-01-F-16). June 17, 2002. Ventura Fish and Wildlife Office, Ventura, California.

U. S. Bureau of Land Management and California Department of Fish and Game. 1992. California Statewide Desert Tortoise Management Policy. Official policy signed in 1992 by the District manager and State Director of the BLM and Regional Managers (Regions 4 and 5) and the Director of the CDFG.

S. VEGETATION

1. Affected Environment

The vegetative communities within the allotments vary with elevation, available water, soils, slope and annual precipitation. Terrestrial natural communities have been mapped using the classification employed by the California Natural Diversity Database of the Natural Heritage Division in the California Department of Fish and Game (Robert F. Holland, Ph.D., 1986) and the California Native Plant Society's A Manuel of California Vegetation (Keeler-Wolf, Sawyer, 1995). The primary plant communities occurring within the affected area are Mojave Creosote Bush Scrub, which is the perdominate plant community of the Mojave Desert. Other communities include Mixed Mojave Scrub, Desert Grassland, Alkali Sink, Desert Dry Wash Woodland, Semi-Desert Chaparral, Blackbrush Scrub, Joshua Tree Woodland, and Pinyon Pine/Juniper Woodland. Riparian vegetation is discussed in the Wetland/Riparian Zone Section on page 65. Following is a description of the key plant species or plant communities that may be affected.

The Mojave Creosote Bush Scrub - This community occurs from 75 meters below sea level to 1000 meters above sea level, in well drained soils found on alluvial fans, bajadas and upland slopes. The dominant perennial species in a Creosote Bush Scrub plant community is the creosote bush (*Larrea tridentata*) which is also the most abundant shrub in the California Desert. A Creosote Bush Scrub plant community diversity is characteristically low to medium. Some associated plant species in this community include white bursage (*Ambrosia dumosa*), Ephedra species (*Ephedra* sp.), and desert senna (*Senna armata*). Desert washes that occur within this community support additional species, the most common being the catclaw acacia (*Acacia greggii*) and desert willow (*Chilopsis linearis*).

The Mixed Mojave Scrub - This community occurs between 300-1500 meters elevation on all slopes in shallow and deep soils that are occasionally rocky. The Mixed Mojave Scrub community is comprised primarily of the dominant Yucca species (*Yucca schidigera, Yucca bacata*) and associated species like winter fat (*Kraschenninnokovia lanata*), boxthorn species (*Lycium* sp.), spiny menodora (*Menodora spinescens*), spiny hopsage (*Grayia spinosa*) and cacti species (*Opunita sp., Mammallaria sp., Echinocactus sp., Ferocactus sp., Echinocerus sp.*).

The Desert Saltbush Scrub (Allscale Series) - This community occurs between 75 meters below sea level to 1500 meters elevation on old lake deposits, dissected alluvial fans and rolling hills. The Allscale Series is comprised primarily of the dominant Atriplex species (*Atriplex ploycarpa*

and *Atriplex spinifera*) and associated species like bladderpod (*Isomeris arborea*), bush buckwheat (*Eriogonum fasciculatum*), California ephedra (*Ephedra californica*), cheesebush (*Hymenoclea salsola*), and paleleaf goldenbush (*Isocoma acradenia*).

The Desert Grassland - (Big Galleta series) - This community occurs from 75 meters below sea level to 1400 meters above sea level on flat ridges, lower slopes and stabilized sand dunes. The Desert Grassland community is dominated by big galleta *(Pleuraphus rigida)* with associated native and non-native grasses including black grama *(Bouleloua eriopoda*), needle grama (*Bouteloua aristidoides var. aristidoides*), Indian rice grass (*Achnatherum hymenoides*), desert needle grass (*Achnatherum speciosum*), fluff grass (*Erioneruon pulchellum*), red brome (*Bromus madritensis ssp. rubens*), Mediterranean grass (*Schismus* sp.) and cheat grass (*Bromus tectorum*).

The Semi-Desert Chaparral - This community is common in the San Bernardino mountains between 600 and 1500 meters. It its normally seen at the upper edges of Sonoran and Mojave communities. It is similar to other chaparral communities but occurs in areas that are a bit warmer and drier in the summer and colder in the winter with upper extent often integrating with Pinyon Pine/Juniper Woodlands. This community is also less fire-prone than other chaparrals due to lower fuel loadings. Common species are chemise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos glauca*), California buckwheat (*Eriogonum fasciculatum*), and sugar sumac (*Rhus ovata*).

The Pinyon Pine/Juniper Woodland - This community occurs between 1000 to 2800 meters above sea level on alluvial fans, pediments, slopes and ridges in rocky, gravelly well-drained soils. The dominant species is either single-leaf pinyon pine (Pinus monophylla) or Utah juniper (*Juniperus osteosperma*). Associated species may include bitterbrush (*Purshia tridentata*), cliffrose (*Purshia glandulosa*), blackbrush, rabbitbrush species (*Chrysothamnus* spp.), Ephedra species, spiny hopsage and sage species (*Artemisia spp.).*

The Joshua Tree Woodland - This community occurs between 700 meters and 1800 meters above sea level on gentle alluvial fans in colluvial soils. The Joshua tree (*Yucca brevifolia*) is a main component of this community. However, compared to the frequency in which other shrubs and grasses occur in the community, it is almost never a dominant species. Some common associated species within the community are black bush, rabbitbrush, cheese-bush, goldenbush species (*Ericameria* spp.), ephedra species, winterfat, bladderpod (*Isomeris arborescens*), creosote bush and various cacti species.

The Blackbrush Plant Community (blackbrush series) - This community occurs between 1200 and 1800 meters on alluvial slopes and bajadas in shallow soils that are often derived from a dolomitic, limestone substrate. The blackbrush plant community is dominated almost completely by blackbrush (*Coleogyne ramosissima*) with some associates including Mojave yucca (*Yucca schidigera*), Ephedra species, spiny hopsage and buckwheat species (*Eriogonum sp.).*

BLM Sensitive Plant Species:
Several sensitive plant species (see Table 9) occur on the lands proposed for grazing: little San Bernardino Mountains gilia (*Gilia maculata*), white-margined beardtongue (*Penstemon*

albomarginatus), Mojave monkeyflower (*Mimulus mohavensis*), crucifixion thorn (*Castela emoryi*), Charlotte's phacelia (*Phacelia nashiana*), and desert cymopterus (*Cymopterus deserticola*). These species occur where suitable habitat is available.

Table 9. Sensitive Plant Species Within Cattle Allotments

Species Name	Regulatory Status	Habitat
Charlotte's Phacelia	BLM Sensitive	Loose sand, talus, and washes
Little San Bernardino Mountains Gilia	BLM Sensitive	Sandy well-aerated soil on flat ground
White-margined Beardtongue	BLM Sensitive	Sand fields and washes
Mojave Monkeyflower	BLM Sensitive	Granitic soils, gravelly banks and desert washes
Desert Cymopterus	BLM Sensitive	Blowsand

Threatened or Endangered Plant Species

Within the allotments several sensitive plant species occur (see Table 10) with varying degrees of sensitivity. The current status given to each plant is from the June 1999 Special Plants List (California Department of Fish and Game; Natural Diversity Database). Presently, some of these populations occur in conjunction with areas of cattle use. Rare, threatened, or endangered plant species within the CDD are listed and shown on page 45 and Map 5 of the CDCA Plan.

One federally threatened plant species, the Parish's daisy, can be found within the Rattlesnake Canyon Allotment boundary. The Bureau has erected a fence to exclude grazing from parish's daisy habitat.

Table 10. Federally or State Listed Plants

Common Name	Scientific Name	Location	Status	Allotment
Parish's daisy	*Erigeron parishii*	Low elevation desert pasture along Parten Mine road, and two small populations in the mountain pasture	Threatened	Rattlesnake Canyon
Cushenberry milkvetch	Astragalus albens	Arrastre Canyon drainage	Endangered	Rattlesnake Canyon
Cushenberry buckwheat	Eriogonum ovalifolium	Arrastre Canyon drainage	Endangered	Rattlesnake Canyon
Cushenberry buckwheat	Eriogonum ovalifolium	Arrastre Canyon drainage	Endangered	Rattlesnake Canyon

2. Environmental Consequences

a. Impacts of Proposed Action (WMP)

The utilization of vegetation by cattle and horses for forage is affected in a number of ways. Key forage plant species for livestock consumption are palatable species that may be utilized frequently, when available, as forage for livestock. Common key forage species that occur in

one or more of the plant communities within the allotments are listed below. These include: Ephedra species (*Ephedra* spp.), winter fat (*Kraschenninnokovia lanata*), spiny menodora (*Menodora spinescens*), big galleta *(Pleuraphus rigida),* Indian rice grass (*Achnatherum hymenoides*), desert needle grass (*Achnatherum speciosum*), saltbush (*Atriplex spp.*), spiny hopsage (*Grayia spinosa*), and cliffrose (*Purshia glandulosa*). These key species can be found in the Mojave Creosote Scrub, Mixed Mojave Scrub, Desert Grassland, Alkali Sink, Joshua Tree Woodland, and Pinyon Pine/Juniper Woodland, and Riparian community types.

Observations of grazing intensity (utilization) on key species can provide an indication of the trend in range condition, which is the state of vegetative cover and soils in relation to a standard or predicted condition for a particular ecological site. Forage utilization and the vigor and abundance of key species are generally more intensely impacted around water sources or high-use facilities due to constant soil compaction from trampling and continual cropping of vegetation from cattle and horses. Impacts to resource conditions next to these facilities are expected, and the area impacted will vary in size due to the type of plant community, soil type, weather conditions, nearest like improvement, and lessee's livestock needs. The trend of the adjacent vegetation constantly changes and downward or upward trends are dependent upon past and current use of forage species. In general, trends for vegetative conditions adjacent to facilities tend to be downward with heavy use and grade upward or static as you move farther away from the facility. In allotments that have not been grazed for several years, the trend in vegetation condition surrounding range improvements and areas of past heavy grazing use may have already had a chance to attain an upward or static trend. Under the proposed action trend is anticipated to remain static overall, with an upward trend anticipated in areas currently in poor range condition.

Rangeland health assessments completed by interdisciplinary teams and other monitoring studies completed on the allotments, including condition and trend have identified the extent livestock grazing is currently affecting vegetation. The assessment teams compared indicators of resource conditions to the National Fallback Standards and after a review of indicators and conditions the team recommended continuation or modification to current grazing management or other practices. These recommendations were finalized with the signing of a determination by the Barstow Field Manager. In 1999 and 2000, rangeland health assessments were conducted on Ord Mountain and Rattlesnake Canyon Allotments (see Table 4).

On the Ord Mountain and Rattlesnake Canyon Allotments, the native species Standard was not met on portions of these allotments, and it was determined that cattle grazing was the primary cause. Recommendations from the determinations varied, most recommended periodic rest, or deferred grazing in areas of the allotments where the native plant communities have been degraded and recruitment of key species is not occurring. In the case of the Ord Mountain, the livestock grazing prescriptions contained in the WMP are inconsistent with the recommendations contained in the determination for that allotment and have perpetuated the improper grazing practices that resulted in non-achievement of the native species standard.

Cattle grazing activities have not be identified as adversely affecting BLM sensitive or federally listed plant species or their habitats listed in Tables 9 and 10. The potential of cattle trampling BLM sensitive or federally listed plant species exists, and an isolated incident of herbivory on

Parish's daisy has been documented, however no similar observations have been discovered since that observation. These occurrences are considered isolated and infrequent. Under the proposed action this trend would continue. Cattle have been excluded from Parish's daisy critical habitat in the Rattlesnake Canyon Allotment by fencing. Future grazing would not have the potential of impacting critical habitat for this species.

There are no known sensitive or federally listed plants species within the Round Mountain Allotment, therefore the proposed action would have no affect on sensitive or listed plant species.

b. No Action

Under this alternative utilization thresholds on key forage species would be 50% which is substantially greater (up to 50% greater) than the utilization thresholds contained in the proposed action. In addition, there would be no accelerated schedule that requires completion of Rangeland Health Assessments, and a requirement to revise AMPs.

c. Cumulative Impacts

Federally listed plant species occur only in the Rattlesnake allotment. The terrain of the allotment is generally steep and vehicle travel is restricted to designated routes. The Parish's daisy is the only listed plant species considered at risk from BLM authorized activities. This species has subsequently been excluded from cattle grazing and other activities by fencing. Therefore current populations are protected from substantial cumulative effects to the species.

Past and present grazing practices have negatively impacted native plant communities on portions of the allotments being analyzed in this document. There are other activities that occur on public land that also contribute to the degradation of native plant communities in heavily used areas of these allotments. These fragile, slow to recover desert plant communities need periodic rest from anthropogenic pressures if there is to be any long-term expectation for stability.

d. Consultation

The Bureau consulted with the Fish and Wildlife Service on January 31, 2001 on the impacts of the CDCA Plan on four federally listed carbonate endemic plants. The Service issued a biological opinion to the Bureau regarding the effects of the CDCA Plan on September 25, 2003 (1-8-01-F-68). It was determined in the biological opinion that grazing would not adversely affect either of the listed plants.

e. Maps

N/A

f. References:

Fish and Wildlife Service. 2003. Biological opinion for the California Desert Conservation

Area Plan [Parish's Daisy, Cushenbury Buckwheat, Cushenbury Milk-vetch, and Cushenbury Oxytheca]. No. 1-8-01-F-68. September 25, 2003. Ventura Fish and Wildlife Office, Ventura, Nevada

4. CONSULTATION AND COORDINATION

A. Participating Staff

Remijio Chavez	Rangeland Mgmt. Specialist
Lorenzo Encinas	Natural Resource Specialist
Amy Lawrence	Archaeologist
Edy Seehafer	Environmental Coordinator
Lynnette Elser	Recreation Branch Chief

B. Consultation

Affected grazing lessees and interested publics.

FINDING OF NO SIGNIFICANT IMPACTS

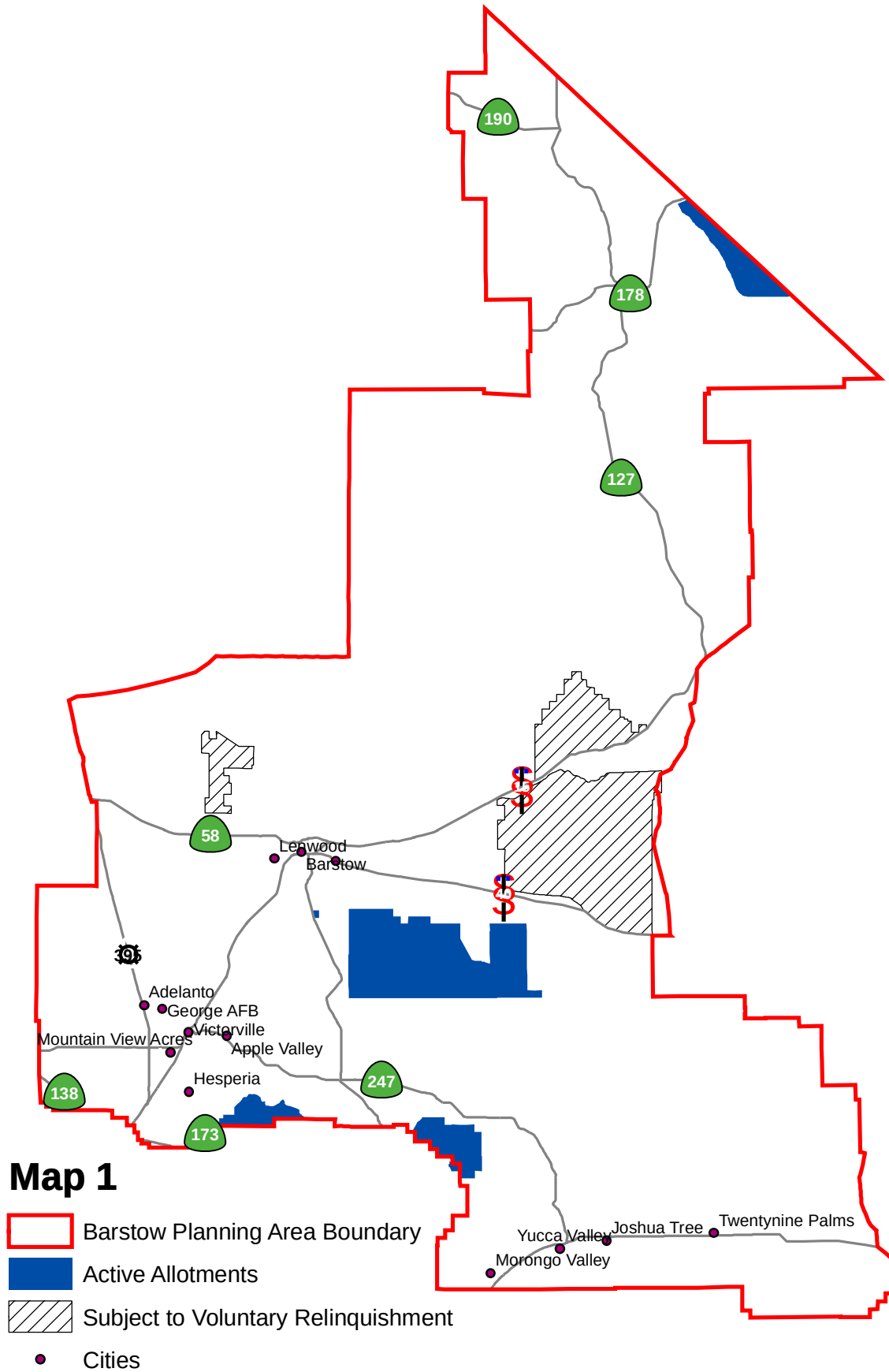
Finding of No Significant Impact: Environmental impacts associated with the proposed action and alternatives have been assessed. Based upon the analysis provided in the attached EA (CA-680-05-81), I conclude that the proposed action of the West Mojave Plan Alternative will have no significant impacts on the environment under the criteria in Title 40 of Federal Regulations Subpart 1508 and is not a major federal action. Preparation of an Environmental Impact Statement pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969 is not required.

This action is in conformance with existing applicable state implementation plans for the maintenance and improvement of air quality and will not cause or contribute to any new or increased violations of any air quality standards in the area. It does not exceed de minimus levels, is not regionally significant; and is exempt from conformity determination (40 CFR Part 93.153 (iii).

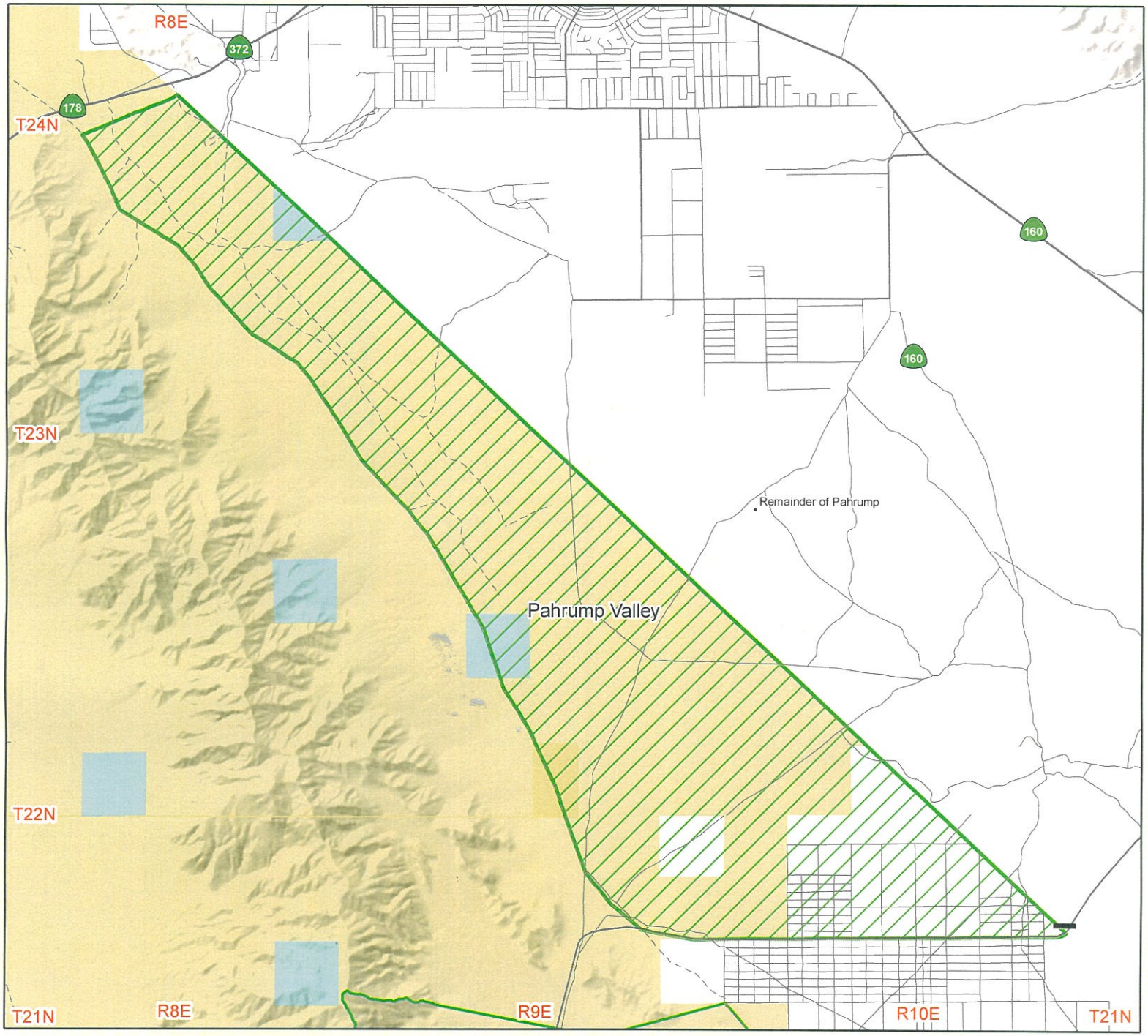
Approved: _____ _____

Field Manager Date

Barstow Cattle Allotments



Pahrump Valley Grazing Allotment



Legend

- Pahrump Valley
- Other Grazing Allotments

Land Ownership

- US Bureau of Land Management
- Private
- State Lands

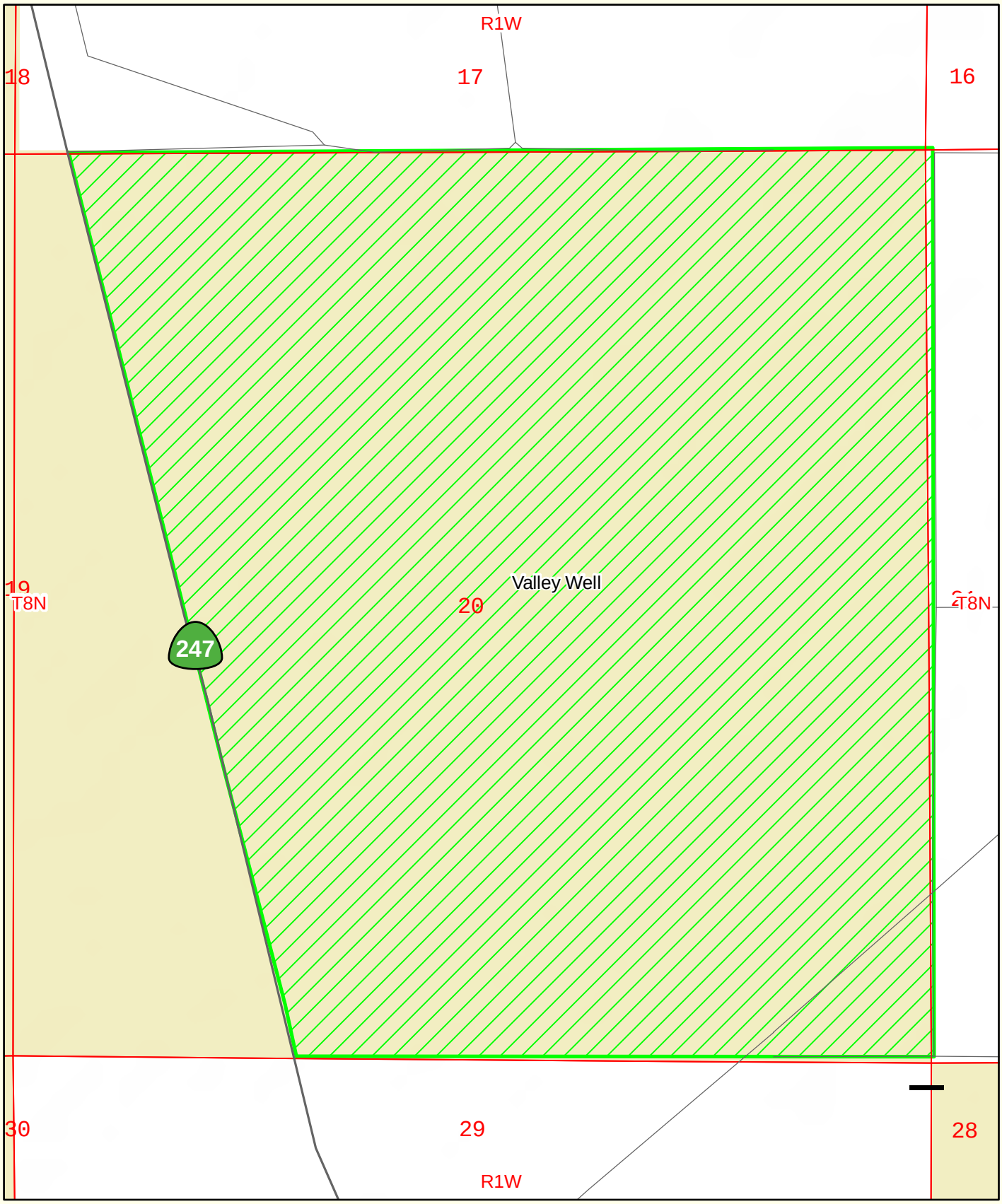
Map 2

0 1 2 3

Miles

US Department of the Interior
BUREAU OF LAND MANAGEMENT
Barstow Field Office
Barstow, California
(760) 252-6000
www.ca.blm.gov/barstow
Date Prepared: 3/31/2006
Project: Pahrump Valley

Valley Well Grazing Allotment



Other Grazing Allotments

Valley Well

Land Ownership

US Bureau of Land Management

Private

0 0.1 0.2 0.3

Miles

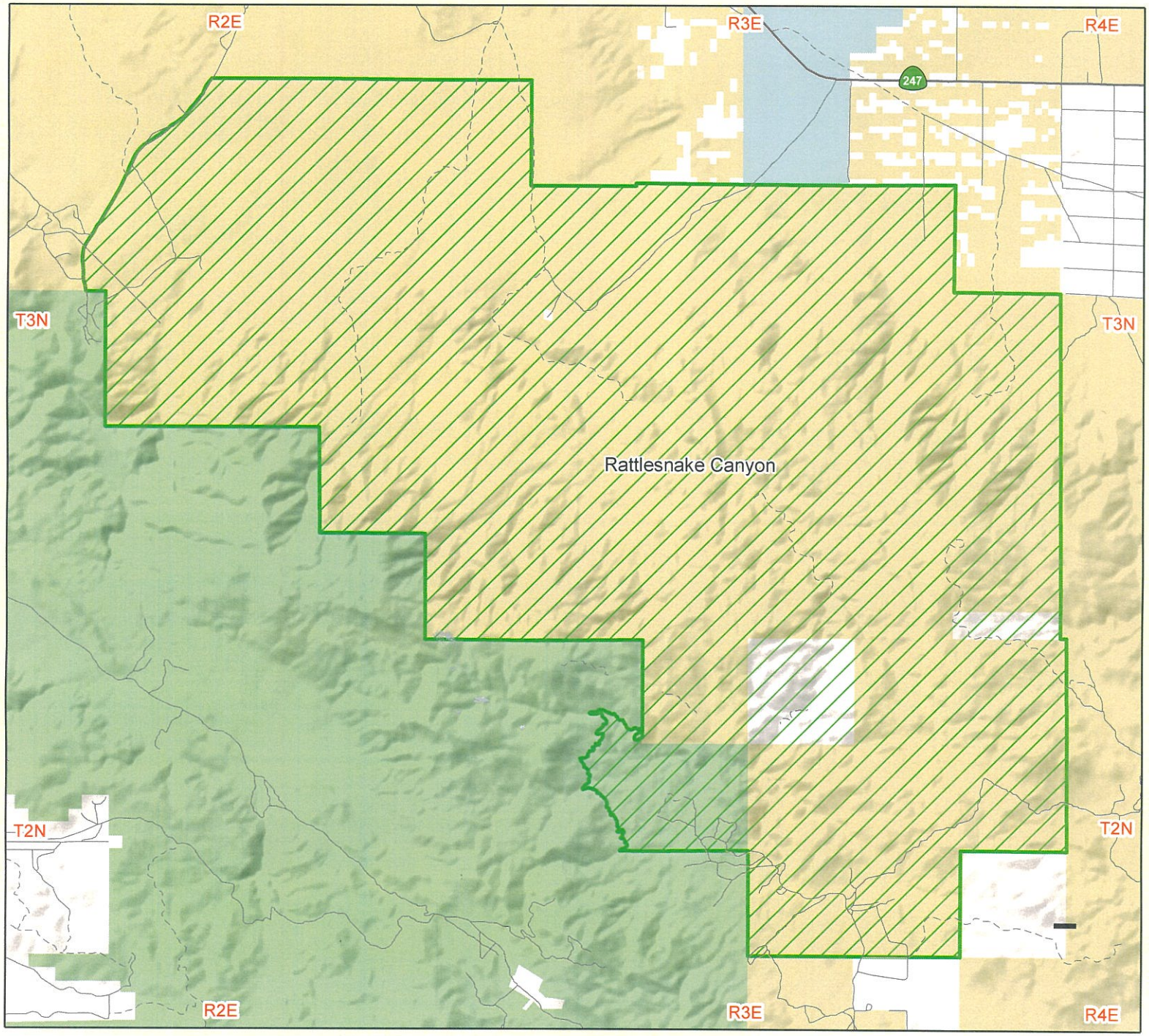
US Department of the Interior
BUREAU OF LAND MANAGEMENT
Barstow Field Office
Barstow, California
(760) 252-6000
www.ca.blm.gov/barstow

Date Prepared: 3/31/2006

Project: Valley Well

Map 3

Rattlesnake Canyon Grazing Allotment



Legend

Rattlesnake Canyon

Land Ownership

US Bureau of Land Management

State Lands

Private

US Forest Service

Map 4

0 0.5 1 2

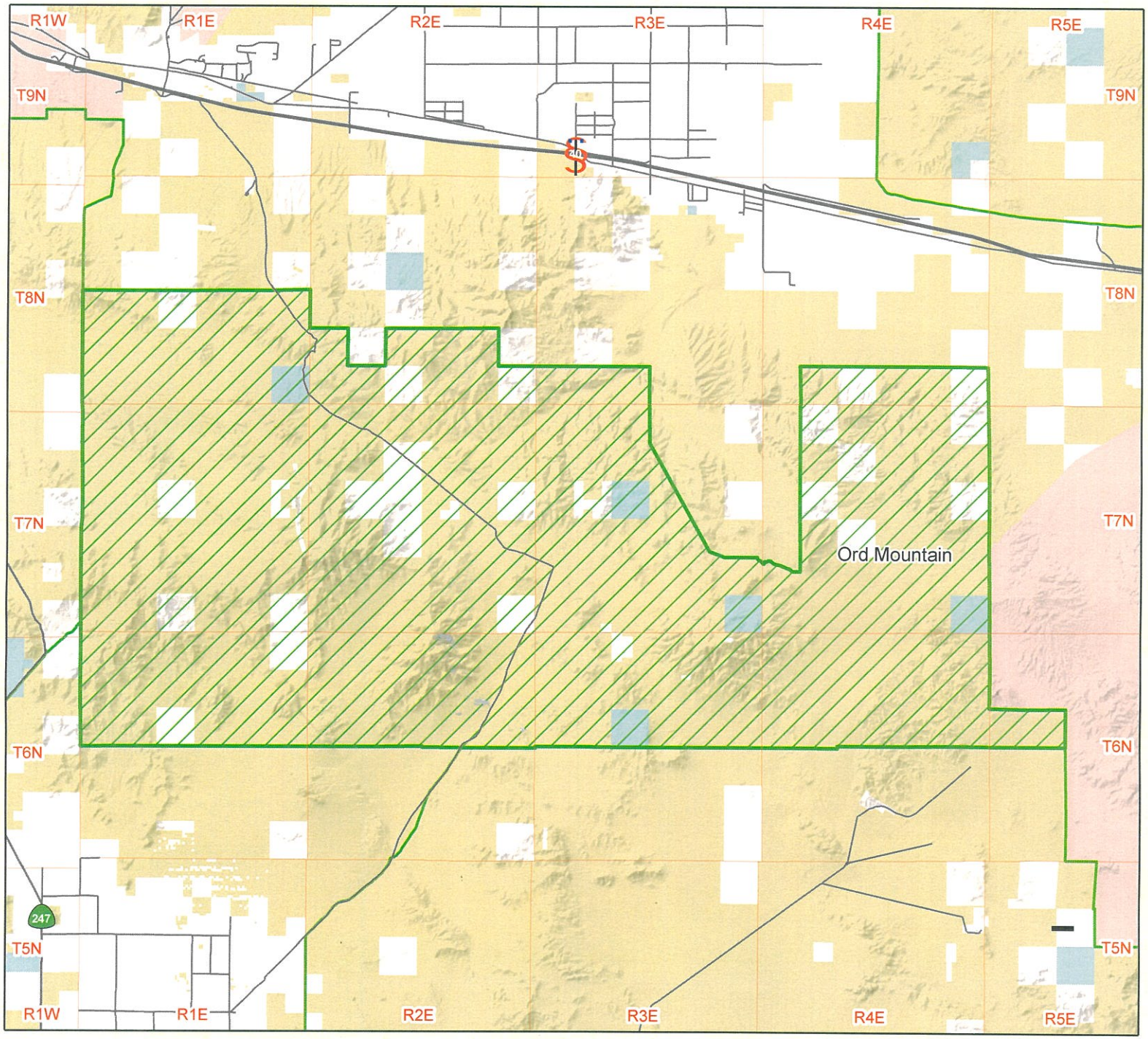
Miles

US Department of the Interior
BUREAU OF LAND MANAGEMENT
Barstow Field Office
Barstow, California
(760) 252-6000
www.ca.blm.gov/barstow

Date Prepared: 3/31/2006

Project: Rattlesnake Canyon

Ord Mountain Grazing Allotment



Legend

- Other Grazing Allotments
- Ord Mountain

Land Ownership

- Private
- US Bureau of Land Management
- Military
- State Lands

Map 5

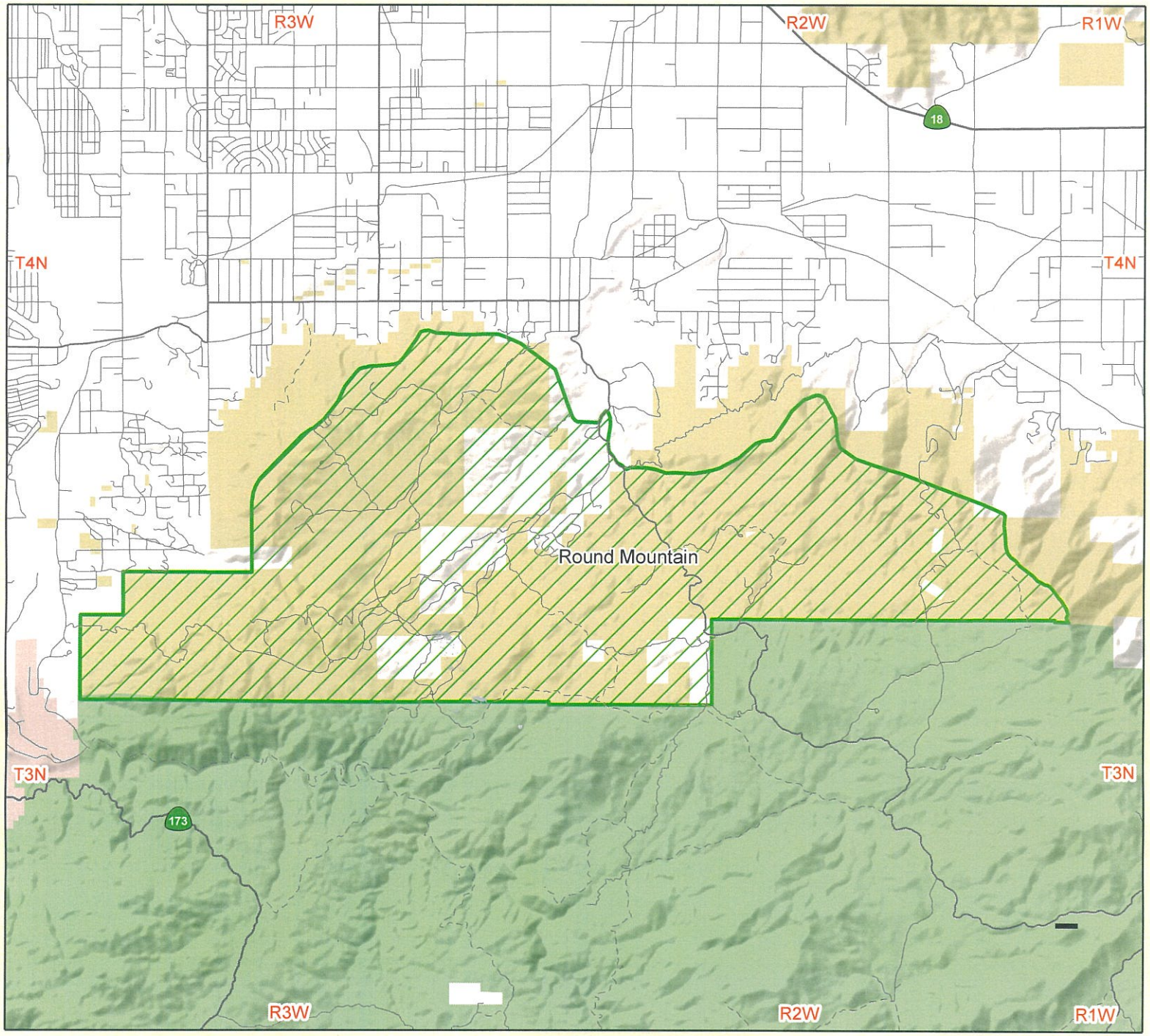
0 1 2 3 4 5 6

Miles

US Department of the Interior
BUREAU OF LAND MANAGEMENT
Barstow Field Office
Barstow, California
(760) 252-6000
www.ca.blm.gov/barstow

Date Prepared: 3/31/2006
Project: Ord Mountain

Round Mountain Grazing Allotment



Legend

Round Mountain

Land Ownership

Private

US Bureau of Land Management

US Forest Service

Military

Map 6

0 0.5 1 2

Miles

US Department of the Interior
BUREAU OF LAND MANAGEMENT
Barstow Field Office
Barstow, California
(760) 252-6000
www.ca.blm.gov/barstow

Date Prepared: 3/31/2006
Project: Round Mountain

APPENDIX 1

2.2.5 Public Land Livestock Grazing Program

This program identifies conservation prescriptions to be implemented on public land within cattle and sheep allotments managed by the BLM in the West Mojave planning area. Where current management differs from that given in Alternative A, the alternative would prevail, and be authorized through amendments to the CDCA Plan. These prescriptions would become effective at the time the BLM's Record of Decision for the West Mojave Plan is signed ("plan adoption"). This section lists existing BLM Standards and Guidelines, terms and conditions of existing federal biological opinions, and new management prescriptions that would be implemented with plan adoption. The discussion is organized as follows:

- Regional Public Land Health Standards and Guidelines for Grazing Management
- Utilization of Key Perennial Species by Livestock
- Cattle Grazing Outside Tortoise Habitat and the MGS Conservation Area
- Cattle Grazing Within Tortoise Habitat and the MGS Conservation Area
- Cattle Grazing Within Desert Wildlife Management Areas
- Sheep Grazing Within All Allotments
- Sheep Grazing Within the MGS Conservation Area and the Mojave monkeyflower Conservation Area
- Sheep Grazing Within DWMAs
- Voluntary Relinquishment of Cattle and Sheep Allotments

2.2.5.1 Regional Public Land Health Standards and Guidelines for Grazing Management

Regional Public Land Health Standards and Guidelines regulate cattle and sheep grazing on BLM-administered lands. Standards and Guidelines are listed and described below.

BLM's grazing regulations in Part 43 CFR 4180 require that State Directors, in consultation with Resource Advisory Councils, develop Standards of Rangeland Health and Guidelines for Grazing management. The grazing regulations require that standards be in conformance with the "Fundamentals of Rangeland Health" (BLM policy developed in 1993) and that the standards and guidelines address each of the "guiding principles" as defined in the regulations. Standards and guidelines are to be incorporated into BLM's land use plans to improve ecological conditions. Improving ecological conditions is based upon attainment and maintenance of basic fundamentals for healthy systems. Standards and guidelines are defined as follows:

- A *Standard* is an expression of the level of physical and biological condition or degree of function required for healthy, sustainable rangelands.

- *Guidelines* for grazing management are the types of grazing management activities and practices determined to be appropriate to ensure that the standards can be met or significant progress can be made toward meeting standards.

Regional Standards apply to all BLM lands and programs, while the *Regional Guidelines* presented below apply only to livestock grazing. BLM staff, in consultation with the BLM's California Desert District Advisory Council, has developed the regional standards and guidelines to satisfy the requirements of BLM's strategic plan, comply with the fundamentals of rangeland health, and address each of the guiding principles as required by the grazing regulations. The development of guidelines for grazing management also addresses each of the guiding principles.

While the definition and adoption of standards and guidelines applies specifically and only to BLM lands, the spirit of initiative is reflected throughout the West Mojave planning area in developing the strategic approach to managing species and habitats.

Required Actions on Grazing Leases: Standards and grazing management guidelines apply to grazing related portions of activity plans, terms and conditions of permits, leases, and other authorizations, and range improvement activities such as vegetation manipulation, fence construction and development of water. For lands leased for grazing uses, the grazing regulations require the authorized officer to "take appropriate action" prior to the beginning of the next grazing season when standards or guidelines are not achieved and livestock grazing has been determined to be a significant factor in the failure to achieve the standard or comply with the guideline.

Application of Standards in Land Use Planning: Regional Standards of Public Land Health would be applied to all resources and uses of the public lands in the following manner:

- *Public Land Health Standards.* A single set of Public Land Health Standards would be applied desert-wide and to all resources and uses. Standards have their foundation in the physical and biological laws of nature. These laws are consistent regardless of the resource or use.

- *Assessment of Public Land Health.* The health of public lands and resources would be assessed using the Standards as the measurement of desired function.

- *Assessment Scale.* The health of public lands would be assessed on a landscape/watershed scale. While it may be useful and necessary to examine certain environmental components on a smaller scale, or at various scales, it is intended that overall Public Land Health be made at a landscape or watershed scale.

- *Health Determination.* Since Standards are a statement of goals for physical and biological function, determinations would be based strictly on the result of resource assessments and be independent of the uses on the public land.

- *Resource Objectives.* Resource management objectives are decisions made in consideration of resource values and capabilities and use needs through land use and activity plans. Public Land Health would be used to determine if resource management objectives are being met. In some cases, particularly where intensive land uses are allowed, resource management objectives could be met while the Public Land Health determination may indicate non-conformance with the Standards.

- *Causal factors.* Where public land health assessments indicate that resource management objectives are not being met, a determination would be made as to the causal factors.

- *Action/Adaptive Management.* Where public land health does not conform to resource management objectives, appropriate action - including changes to land use or activity plans - would be initiated using existing regulatory authorities for each authorized activity. In the case of livestock grazing the regulations require that the authorized officer "take appropriate action" prior to the beginning of the next grazing season when standards or guidelines are not achieved and livestock grazing has been determined to be a significant factor in the failure to achieve the standard or comply with the guideline.

Application of Standards in NEPA Analysis: Analyses of resources and issues guided by Standards would help NEPA review of projects. Consideration of standards should improve identification and analyses of:

- Relevant resource conditions and ecosystem functions
- Actions in terms of affects on resources and ecosystem functions
- The relationship of biological and physical resources and functions
- The most important resources and functions
- Project design and mitigation
- Cumulative effects
- Short-term and long-term affects
- Project compliance

Goals and Objectives of Standards and Guidelines: Table 2-16 presents the goals and objectives of standards and guidelines.

Table 2-16
Goals and Objectives of Standards and Guidelines

GOALS AND OBJECTIVES	
Goals	Develop Standards that would meet or exceed the National policy for: • Watersheds • Ecological processes • Water quality • Habitats Develop Guidelines to meet National policy and the grazing regulations.
Objectives	Implement Standards as directed by National policy and grazing regulations. Implement Guidelines to conform grazing activities to achieve Standards.

Objective A -- Implement Standards: Manage all activities under the following Regional Standards of Public Land Health.

Soils. Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, geology, landform, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil moisture necessary for optimal plant growth and vigor, and provide a stable

watershed, as indicated by:

- Canopy and ground cover are appropriate for the site;
- There is diversity of plant species with a variety of root depths;
- Litter and soil organic matter are present at suitable sites;
- Microbiotic soil crusts are maintained and in place;
- Evidence of wind or water erosion does not exceed natural rates for the site; and
- Hydrologic and nutrient functions maintained by permeability of soil and water infiltration are appropriate for precipitation.

Native Species. Healthy, productive and diverse habitats for native species, including special status species (Federal T&E, Federally proposed, Federal candidates, BLM sensitive, or California State T&E, and CDD UPAs) are maintained in places of natural occurrence. As indicated by:

- Photosynthetic and ecological processes continue at levels suitable for the site, season, and precipitation regimes;
- Plant vigor, nutrient cycle, and energy flow are maintaining desirable plants and ensuring reproduction and recruitment;
- Plant communities are producing sufficient litter;
- Age class distribution of plants and animals are sufficient to overcome mortality fluctuations;
- Distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events;
- Alien and noxious plants and wildlife do not exceed acceptable levels;
- Appropriate natural disturbances are evident; and
- Populations and their habitats are sufficiently distributed and healthy to prevent the need for listing special status species.

Riparian/Wetland and Stream Function. Wetland systems associated with subsurface, running, and standing water function properly and have the ability to recover from major disturbances. Hydrologic conditions are maintained. As indicated by:

- Vegetative cover would adequately protect banks, and dissipate energy during peak water flows;
- Dominant vegetation is an appropriate mixture of vigorous riparian species;
- Recruitment of preferred species is adequate to sustain the plant community;
- Stable soils store and release water slowly;
- Plant species present indicate soil moisture characteristics are being maintained;
- There is minimal cover of invader/shallow-rooted species, and they are not displacing deep-rooted native species;
- Maintain shading of stream courses and water sources for riparian dependent species;
- Stream is in balance with water and sediment being supplied by the watershed;
- Stream channel size and meander is appropriate for soils, geology, and landscape; and
- Adequate organic matter (litter and standing dead plant material) is present to protect the

site and to replenish soil nutrients through decomposition.

Water Quality.[1] Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California State Standards, as indicated by:

- The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen;
- Achievement of the Standards for riparian, wetlands, and water bodies;
- Aquatic organisms and plants (e.g., macro invertebrates, fish, algae, and plants) indicate support for beneficial uses; and
- Monitoring results or other data that show water quality is meeting the Standard.
-

Objective B – Conform Grazing Activities: Manage grazing activities with the following regional guidelines.

1. Facilities shall be located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland functions.

2. The development of springs and seeps or other projects affecting water and associated resources would be designed to protect the ecological functions and processes of those sites.

3. Grazing activities at an existing range improvement that conflict with achieving proper functioning conditions (PFC) and resource objectives for wetland systems (lentic, lotic, springs, adits, and seeps) shall be modified so PFC and resource objectives can be met, and incompatible projects shall be modified to bring into compliance. The BLM would consult, cooperate, and coordinate with affected interest and livestock producers(s) prior to authorizing modification of existing projects and initiation of new projects. New range improvement facilities shall be located away from wetland systems if they conflict with achieving or maintaining PFC and resource objectives.

4. Supplements shall be located a sufficient distance away from wetland systems so they do not conflict with maintaining riparian wetland functions.

5. Management practices shall maintain or promote perennial stream channel morphology

---

[1]Management Objective: For water bodies, the primary objective is to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are contributing factor). This objective is of even higher priority in the following situations:

i. Where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the Federal Clean Water Act;

ii. Where aquatic habitat is present or has been present for Federal threatened or endangered, candidate, and other special status species dependent on water resources: and,

iii. In designated water resource sensitive areas such as riparian and wetland areas.

(e.g., gradient, width/depth ration, channel roughness, and sinuosity) and functions that are appropriate to climate and landform.

6. Grazing management practices shall meet State and Federal water quality Standards. Where impoundments (stock ponds) and having a sustained discharge yield of less than 200 gallons per day to surface or groundwater are excepted from meeting State drinking water Standards per SWRCB Resolution Number 88-63.

7. In the California Desert Conservation Area all wildfires in grazing allotments shall be suppressed. However, to restore degraded habitats infested with invasive weeds (e.g., tamarisk) prescribed burning may be utilized as a tool for restoration. Prescribed burns may be used as a management tool where fire is a natural part of the regime.

8. In years when weather results in extraordinary conditions seed germination, seedling establishment and native plant species growth shall be allowed by modifying grazing use.

9. Grazing on designated ephemeral rangeland shall be allowed only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.

10. During prolonged drought, range stocking shall be reduced to achieve resource objectives and /or prescribed perennial forage utilization. Livestock utilization of key perennial species on year-long allotments shall be checked about March 1 when the Palmer Severity Drought Index/Standardized Precipitation Index indicates dry conditions are expected to continue.

11. Through the assessment process or monitoring efforts, the extent of invasive and/or exotic plants and animals shall be recorded and evaluated for future control measures. Methods and prescriptions shall be implemented, and an evaluation would be completed to ascertain future control measures.

12. Restore, maintain or enhance habitats to assist in the recovery of federally listed threatened and endangered species. Restore, maintain or enhance habitats of special status species including federally proposed, Federal candidates, BLM sensitive, or California State T&E to promote their conservation.

13. Grazing activities shall support biological diversity across the landscape and native species and micro biotic crusts are to be maintained.

14. Experimental research efforts shall be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities.

Utilization of Key Perennial Species by Livestock: The following prescription would be adopted to govern utilization of key perennial species by livestock in continuous year-long

operations:

- (LG-1) Based on Holechek's (et al., 1998) work or the best scientific information available, livestock utilization level of key perennial species in the Mojave Desert range type would not exceed 40 percent on ranges that are grazed during the dormant season and are meeting Standards. Rangelands that are grazed during the active growing season and are not meeting Standards shall not exceed 25 percent utilization of key species except as described in allotment management plans, decisions, or other management documents with a specific grazing strategy with prescribed level of perennial forage consumption. The utilization range between 25 and 40 percent is for those forage species with a proper use factor that would allow consumption up to and between 25 and 40 percent otherwise lower use limits would prevail. Until modified with current information, utilization of the following general range types as shown in Table 2-17 shall be prescribed for grazing use.

Table 2-17
Proposed Plan Grazing Guidelines for Range Types

RANGE TYPE	PERCENT OF USE OF KEY PERENNIAL SPECIES	
	POOR – FAIR RANGE CONDITION OR GROWING SEASON	GOOD – EXCELLENT RANGE CONDITION OR DORMANT SEASON
Mojave/Sonoran Desert Scrub	25	40
Salt Desert Shrub land	25	35
Semi desert Grass and Shrub land	30	40
Sagebrush Grassland	30	40
Mountain Shrub land	30	40
Pinyon-Juniper Woodland	30	40

Rangeland in good condition or grazed during the dormant season can withstand the higher utilization level. Rangelands in poor condition or grazed during the active growth season would receive lower utilization levels.

Monitoring of grazing allotments resource conditions would be routinely assessed to determine if Public Land Health Standards are being met. In those areas not meeting one of more Standards, monitoring processes would be established where none exist to monitor indicators of health until the Standard or resource objective has been attained. Livestock trail networks, grazed plants, livestock facilities, and animal waste are expected impacts in all grazing allotments and these ongoing impacts would be considered during analysis of the assessment and monitoring process. Activity plans for other uses or resources that overlap an allotment could have prescribed resource objectives that may further constrain grazing activities (e.g., ACEC). In an area where a Standard has not been met, the results from monitoring changes to grazing management required to meet Standards would be reviewed annually. During the final phase of the assessment process, the Range Determination includes the schedule for the next assessment of resource conditions. To attain Standards and resource objectives, the best science would be used to determine appropriate grazing management actions. Cooperative funding and assistance from other agencies, individuals, and groups would be sought to collect prescribed monitoring data for indicators of each Standard.

2.2.5.2 Cattle Grazing Outside Tortoise Habitat and the MGS Conservation Area

The following prescriptions would be implemented for all cattle allotments managed by the BLM in the planning area that are not located within either desert tortoise habitat or the Mohave Ground Squirrel Conservation Area. Affected cattle allotments include Double Mountain, Oak Creek and Round Mountain.

- (LG-2) Health assessments would be completed prior to authorizing a grazing lease or renewal of grazing lease for Double Mountain, Oak Creek, and Round Mountain.

- (LG-3) Within 12 months after completing a Health Assessment for a specific area (i.e., grazing allotment, watershed, etc.), the BLM would use field and office information to make a health determination, which would serve as baseline information to develop corrective management strategies. Where a determination indicates that standards are not being achieved, changes in grazing management would be implemented that may result in new terms and conditions to achieve standards and conform to guidelines. Although not reiterated below, this same regulatory process would be required following specified time frames given for the health assessments that follow.

The West Mojave Plan's cattle grazing program affects public lands only; it does not address the grazing of cattle on private land.

2.2.5.3 Cattle Grazing Within Tortoise Habitat and the MGS Conservation Area

The livestock grazing management prescriptions listed below would be implemented for all cattle allotments managed by the BLM in the planning area that occur in desert tortoise habitat and within the Mohave Ground Squirrel Conservation Area. Affected cattle allotments include: Cady Mountain, Cronese Lake, Darwin, Hansen Common, Harper Lake, Lacey-Cactus-McCloud, Olancha Common, Ord Mountain, Pilot Knob, Rattlesnake Canyon, Rudnick Common, Tunawee Common, and Walker Pass Common.

Unless otherwise noted, all protective measures identified in Section 2.2.5.3 would be implemented in desert tortoise habitat and the MGS Conservation Area.

2.2.5.3.1 Management under Existing Federal Biological Opinions

In June 2002, the USFWS issued a biological opinion for the CDCA Plan, entitled *Biological Opinion for the California Desert Conservation Area Plan [Desert Tortoise] (1-8-01-F-16).* The reasonable and prudent measures set forth in the biological opinion, and terms and conditions to implement them, are applicable to the West Mojave planning area. The BLM must ensure that any permittee or lessee (hereafter referred to as lessee) complies with terms and conditions, which implement reasonable and prudent measures.

The second term and condition references the March 1994 opinion entitled, *Biological Opinion for Cattle Grazing on 25 Allotments in the Mojave Desert, Riverside and San Bernardino Counties, California (1-8-94-F-17).* A summary of applicable terms and conditions

for cattle activities are listed in Appendix O.

2.2.5.3.2 New Management Prescriptions

The following prescriptions comprise new management that would be implemented through plan adoption.

- (LG-4) The Lacey-Cactus-McCloud allotment boundary would be modified to exclude those portions that occur on China Lake NAWS.

- (LG-4a) Livestock kind and use designation in the Darwin Allotment would be converted from horse to cattle and the allotment would be incorporated within the Lacey-Cactus-McCloud Allotment.

- (LG-5) All cattle carcasses would be removed and disposed of in an appropriate manner (i.e., not buried) within two days of being found or, if this is not practicable, such reasonable time as is acceptable to the BLM authorized officer. Cross-country vehicle travel to remove cattle carcasses must have prior approval from the BLM.

- (LG-6) In all cattle allotments occurring in tortoise habitat outside of DWMAs, ephemeral authorization would only be granted when ephemeral production exceeds 230 pounds per acre. The Cady Mountain and Rudnick Common Allotments are outside DWMAs, but significant areas of high quality desert tortoise habitat are found within the allotment. Grazing use would continue until lessee voluntarily relinquishes all grazing use (see Section 2.2.5.8).

- (LG-7) New cattle guards would be designed and installed to prevent entrapment of desert tortoises. All existing cattle guards in desert tortoise habitat would be modified within three years of plan adoption to prevent entrapment of desert tortoises.

- (LG-8) Any hazards to desert tortoises that may be created, such as auger holes and trenches, would be eliminated before the rancher, contractor, or work crew leaves the site.

2.2.5.3.3 Health Assessments

(LG-9) Cady Mountain, Hansen Common, Lacey-Cactus-McCloud, Olancha Common, Rattlesnake Canyon, Rudnick Common, Tunawee Common, Walker Pass Common, and Whitewater Canyon Allotments would receive the highest priority for health assessments following adoption of the plan. Cady Mountain and Rudnick Common would be scheduled for assessment of public land health subject to a two-year review period. Allotments not relinquished after 24 months from adoption of the plan would be scheduled for public land health assessment within 18 months.

2.2.5.4 Cattle Grazing Within DWMAs

The livestock grazing management prescriptions listed below would be implemented for all cattle allotments managed by the BLM in the planning area that are located within tortoise DWMAs. Unless otherwise noted, all prescriptions identified in Sections 2.2.5.3 and 2.2.5.4 would also be implemented in DWMAs. Affected cattle allotments include Cronese Lake, Harper Lake, Ord Mountain and Pilot Knob; Valley Well allotment would not be affected.

2.2.5.4.1 Proposed Management Prescriptions

The following prescriptions comprise new management that would be implemented through plan adoption.

- (LG-10) No ephemeral authorizations would occur in DWMAs. Allotments currently capable of authorizing ephemeral and perennial forage for cattle use would be designated for perennial forage use only. Therefore, Pilot Knob Allotment would no longer be available for cattle grazing and all ephemeral production would be available for tortoise recovery and conservation. Authorizations related to grazing activities (e.g., range improvements) on the Pilot Knob Allotment would be cancelled and the allotment designation would be removed from the CDCA Plan.

- (LG-11) Issuance of temporary non-renewable (TNR) grazing permits would be prohibited in DWMAs for all lands below an elevation of 4,000 feet.

- (LG-13) When ephemeral forage production[2] is less than 230 pounds per acre, cattle would be substantially removed from portions of the allotment within the DWMA referred to as "Designated Exclusion Areas" (see Map 2-13) from March 15 to June 15.

- (LG-14) Cattle may remain past March 15 in expectation of ephemeral forage production over 230 pounds per acre. If this level of forage is not attained when weather conditions (e.g., warming of the soil) are appropriate, cattle must be substantially removed from Designated Exclusion Areas until such time as 230 pounds per acre ephemeral forage is achieved or June 15, whichever is earlier. This determination would be made based on the evaluation and judgment of the BLM authorized officer. If cattle must be removed, the operator would be given two weeks to remove them from the designated exclusion area.

- (LG-16) The term "substantially removed" recognized that a few individual cattle might wander into the Designated Exclusion Areas despite the operator's best efforts and regardless of management facilities (e.g., fences, water sources) that are in place.

---

2 The *ephemeral production threshold* should not be confused with *ephemeral authorization*. The 230-pound *ephemeral production threshold* is intended to avoid competition between cattle and tortoises in years of poor rainfall and plant growth. *Ephemeral authorization* is different, in that it allows the lessee to increase the stocking rate during years when ephemeral plant growth is abundant. Whereas, ephemeral authorization would allow more cattle to be grazed (only outside DWMAs), the ephemeral production threshold would trigger the removal of cattle from Exclusion Areas (only inside DWMAs).

- (LG-17) The grazing strategy would be developed within a year and implemented within two years of plan adoption. The strategy would be a written plan detailing the area of removal, natural cattle movements, existing and potential improvements, and other constraints of cattle management.

- (LG-17a) The Ord Mountain Allotment Management Plan will be revised after adoption of the West Mojave Plan. As part of the implementation of the revised AMP, based upon available funding, range fences would be installed in two places to exclude cattle from high concentration tortoise areas round adjacent to the Ord Mountain Allotment: (a) along the southern boundary of the allotment, west of the Cinnamon Hills, in northern Lucerne Valley; and (2) along the eastern boundary of the allotment, in the vicinity of Box Canyon.

2.2.5.4.2 Health Assessments

(LG-18) Cronese Lake, Harper Lake, and Ord Mountain Allotments would be scheduled for assessment of public land health subject to a two-year review period. Allotments not voluntarily relinquished after 24 months from adoption of the plan would be scheduled for public land health assessment within 18 months.

- (LG-19) Based on concerns expressed by management and grazing lessee(s), conduct a study of tortoise nutritional ecology in relation to livestock grazing, comparable to studies performed in the Ivanpah Valley during the later 1990s. If appropriate, modify grazing program in response to study findings.

ATTACHMENT 1

SUPPLEMENTAL PROCEDURES FOR LIVESTOCK GRAZING PERMIT/LEASE RENEWALS

A CULTURAL RESOURCES AMENDMENT
TO
THE STATE PROTOCOL AGREEMENT

BETWEEN

CALIFORNIA BUREAU OF LAND MANAGEMENT
AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

The purpose of this amendment is to address the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing approximately 400 grazing permit/lease (hereafter "permit") renewals scheduled for 2004 through 2008. This amendment shall cover grazing permit renewals for livestock as defined in 43 CFR 4100.0-5 as "....domestic livestock – cattle, sheep, horses, burros, and goats." The following procedures will allow for renewal of the permits while maintaining compliance with the NHPA. Alternative approaches to this amendment may be developed by individual Field Offices, but such approaches shall fall under the Section 106 regulations of the NHPA (36 CFR Part 800) and shall require individual Field Office consultation with the SHPO.

These supplemental procedures are an amendment to the State Protocol dated April 6, 1998, which is scheduled for termination on October 25, 2004. These supplemental procedures will remain in effect when that Protocol is terminated and will become an amendment to a successor Protocol document.

This amendment deviates from the Protocol in *Section VI. Thresholds for SHPO Review*, which states, "*BLM shall complete the inventory, evaluation and assessment of effects and document all findings, including negative inventories and no effect determinations, in BLM files before proceeding with project implementation.*" This amendment would allow for renewal of an existing grazing permit prior to completing all NHPA compliance needs as long as Protocol direction, the BLM 8100 Series Manual guidelines (Protocol Amendment F), and the following specific stipulations are followed:

I. Planning

Grazing permit renewals of any acreage size shall be scheduled for cultural resource compliance coverage over the next ten years. Such long term management includes scheduling for inventory, evaluation, treatment, and monitoring, as appropriate. Schedules for inventories of all renewals to be covered by this amendment shall be delineated by each participating Field Office and submitted to the SHPO and the State Office at the first annual reporting cycle for FY 2004.

This amendment shall only apply to the reissuance of grazing permit authorizations and existing range improvements. All new proposed undertakings for range improvements shall follow the established procedures within the Protocol or 36 CFR 800, the implementing regulations for Section 106 of NHPA.

II. Inventory Methodology

To address the impacts of grazing on cultural resources, a Class II sampling or reconnaissance survey strategy shall be devised by the cultural resource specialist in consultation with range staff which focuses inventory efforts on areas where livestock are likely to concentrate within areas of high sensitivity for cultural resource site locations. Congregation areas where it has been shown that the greatest levels of impact are likely to occur are generally around springs, water courses, meadows, and range improvement areas such as troughs and salting areas.

All existing range improvements within areas of high sensitivity for the location of cultural resource sites shall be inventoried. However, due to the fact that cattle trailing occurs along fence lines and the area of impact is limited to a one meter wide swath and impacts to cultural resources are generally restricted to this corridor, existing linear improvements will not be inventoried except in areas of high sensitivity for the location of cultural resource sites.

Salting areas may change from season to season making locating these areas problematic. Salting locations will be assessed by the cultural resource specialist in consultation with range staff and the permitee. The permitee will be asked to provide a map designating salting areas and these locations will be inventoried if they occur in areas where the probability for the occurrence of cultural resources is high. All livestock loading and unloading areas and corral areas will also be inventoried within areas of high sensitivity for the location of cultural resources.

A Class I records search will also be conducted for each allotment to ascertain previously recorded site locations and areas of prior survey coverage which can be accepted as meeting current standards. Sites located within livestock congregation areas will be visited to evaluate grazing impacts.

All areas identified for inventory in the survey strategy shall be covered intensely. All unrecorded site locations will be recorded and a report of findings for each allotment will be completed. These investigations shall only address public lands administered by BLM. Private, state and county in-holdings will not be evaluated.

III. Tribal and Interested Party Consultation

Field Offices will be responsible for contacting and consulting with Tribes and interested parties as outlined in 36 CFR 800 and the 8120 manual guidelines. This will also meet BLM government-to-government responsibilities for consultation.

IV. Evaluation

Determinations of eligibility to the National Register of Historic Places shall only be undertaken on sites or properties where it can be reasonably ascertained or it is ambiguous that range activities will continue to impact sites and further consultation with SHPO could be required.

V. Effect

A. Range undertakings where historic properties are not affected may be implemented under the Protocol without prior consultation with SHPO. These undertakings shall be documented in the Protocol Annual Report.

B. Range undertakings where historic properties are identified within APEs, and where historic values are likely to be affected or diminished by project activities, require consultation with SHPO, and ACHP if necessary, on a case-by-case basis, pursuant to 36 CFR 800.5-6.

VI. Treatment

Standard Protective Measures can include but are not limited to:

A. Fencing or exclosure of livestock from the cultural resource sufficient to ensure long-term protection, according to the following specifications:

1. The area within the exclosure must be inventoried to locate and record all cultural resources; and

2. The exclosure (i.e.) fence must not divide a cultural resource so that a portion is outside of the fence; and

3. The cultural resource specialist will determine the appropriate buffer to be provided between the cultural resource and its exclosing fence.

B. Relocation of livestock management facilities / improvements at a distance from cultural resources sufficient to ensure their protection from concentrated grazing use.

C. Removal of natural attractants of livestock to a cultural resource when such removal, in the judgment of the cultural resource specialist, will create no disturbance to the cultural resource (e.g. removing vegetation that is providing shade).

D. Removal of the area(s) containing cultural resources from the allotment.

E. Livestock herding away from cultural resource sites.

F. Use salting and/or dust bags or dippers placement as a tool to move concentrations of cattle away from cultural sites.

G. Locating sheep bedding grounds away from known cultural resource sites.

H. Other protective measures established in consultation with and accepted by SHPO.

The Standard Protective Measures defined above may be used to halt or minimize on-going damage to cultural resources. If the standard protection measures can be effectively applied, then no evaluation or further consultation with SHPO on effects will be necessary. The adopted Standard Protective Measures shall be added to grazing permit "Terms and Conditions" as appropriate for each grazing permit issued or reissued as fully processed permits (completed NEPA analysis, consultation, and decision). The "Terms and Conditions" for each permit may be modified by the addition, deletion, or revision of Standard Protective Measures as described in Section VII of these Supplemental Procedures.

VII. Monitoring

A. Field Offices shall adopt the following monitoring guidelines:

1. monitoring shall be conducted yearly and documented to ensure that prescribed treatment measures are effective; and

2. when damaging effects to cultural resources from grazing activities are ambiguous or indeterminate, Field Offices shall conduct monitoring, as necessary, to determine if degrading effects are resulting from grazing activities and if they are continuing to affect the characteristics that may make properties eligible to the NRHP or if they are otherwise adversely affecting the values of cultural resources.

B. When monitoring has yielded sufficient data to make effect determinations, the following apply:

1. When no additional degrading damage will likely occur because standard treatment measures are adequate to prevent further damage from rangeland management activities, SHPO consultation on a case-by-case basis is unnecessary.

2. When no additional degrading damage will likely occur, even without implementation of standard treatment measures, then no further treatment consideration of those resources is necessary, even if past grazing impacts to the ground surface are evident.

3. When additional degrading damage will likely occur, mitigation of adverse effects shall be addressed on a case-by-case basis, pursuant to 36 CFR 800.5-6.

When monitoring results or case-by-case consultation result in a determination concerning addition or deletion of Special Treatment Measure(s) for a specific allotment, then that Measure(s) will be added to, or deleted from, the Terms and Conditions of the fully processed permit for that allotment.

VIII. Disagreements

When a Field Office Cultural Heritage staff and Field Office Manager fail to agree on inventory, evaluation, monitoring, and application of Special Treatment Measures, then the Field Office Manager shall initiate consultation with the SHPO.

IX. Reporting and Amending

A. Each participating Field Office shall report annually to the SHPO and the State Office, a summary of activities carried out under this amendment to the Protocol during the previous fiscal year. The reporting shall be included in the Protocol Annual Report.

B. Annual reports shall summarize activities carried out under this amendment. These reports are not meant to be compilations of the individual project reports prepared for the range projects; they are meant to be programmatic summaries of data and significant findings.

C. Annual reporting shall include at least three major sections:

1. schedules and status of accomplishments in meeting schedules for cultural resource activities in relation to the range management program as identified in Stipulation I; and

2. results, as annual summaries of accomplishment and significant findings resulting from rangeland management cultural resource activities; and

3. appendices to the report that would include project, coverage and cultural resource location maps and tabular summaries of total number of cultural resources located, new cultural resources located, cultural resources evaluated, types of treatment measures employed at each location, and cultural resources monitored.

Attahcment 1-5

D. Annual reports may contain recommendations for new or revised treatment measures.

E. Either party to this agreement may initiate a process to negotiate new or revised treatment measures or to revise the schedule of inventories. When such a process is initiated, the parties to this agreement shall negotiate new or revised treatment measures or schedule of inventories and such revisions or additions shall be issued as Attachments to these Supplemental Procedures.

STATE DIRECTOR, BUREAU OF LAND MANAGEMENT, CALIFORNIA

/s/ James Wesley Abbott *for*

By Mike Pool Date: 8/17/04

STATE HISTORIC PRESERVATION OFFICER, CALIFORNIA

/s/ Milford Wayne Donaldson

By Milford Wayne Donaldson Date: 8/18/2004

Appendix 3. Existing Range Improvements

Allotment Name/ Project Name	*Location* Township/Range/ Section	*Comments*	*Mitigation Description*
Rattlesnake Canyon One Hole Spring #8010	T.3N.,R.3E., Section 23 SENE1/4	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Source and associated riparian habitat fenced.
Rattlesnake Canyon Two Hole Spring/Corral #8019	T.3N.,R.3E., Section 20 NENW1/4	Important water source for livestock and wildlife in desert pasture. Functioning as designed. Important holding facility.	Sourced fenced.
Rattlesnake Canyon Rattlesnake Spring #8021	T.3N.,R.3E., Section 19 NWNE1/4	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Sourced fenced.
Rattlesnake Canyon Willow Spring #8022	T.3N.,R.3E., Section 22 NENW1/4	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Source is proposed for fencing.
Rattlesnake Canyon Dove Spring #8026	T.3N.,R.2E., Section 15 NWSE1/4	Important water source for livestock and wildlife in desert pasture. Functioning as designed.	Large pond fenced.
Rattlesnake Canyon Mound Spring # 8028	T.2N.,R.3E., Section 15 NESW1/4	Important water source for livestock and wildlife in mountain pasture. Functioning as designed.	Sourced fenced.
Rattlesnake Canyon Vaughan Spring	T.2N.,R.3E., Section 15 SENW1/4	Important water source for livestock and wildlife in mountain pasture. Functioning as designed.	Source and associated riparian habitat fenced.
Rattlesnake Canyon NW Rattlesnake Boundary Fence #8484		NW allotment boundary fence.	Prevents livestock drift off allotment. Excludes livestock from critical habitat of Parish's daisy.

Appendix 3. Existing Range Improvements

Rattlesnake Canyon SE Rattlesnake Boundary Fence #8483	T. 2 N., R. 3 E., Sections 12 & 14	3½ miles, 4-strand, smooth top wire, project approximately ¼ complete.	Prevent unauthorized cattle drift off of allotment into wilderness and elsewhere.
Rattlesnake Canyon South Rattlesnake Boundary Fence #8457	T. 2 N., R. 3 E., Section 14	Southern allotment boundary fence. Requires frequent maintenance.	Prevent livestock drift off allotment onto private land.
Rattlesnake Canyon North Rattlesnake Boundary Fence #8458	T.3N.,R.3E., Section 10 SWSW1/4	Northern allotment boundary fence.	Prevent livestock drift off allotment onto private land.
Ord Mountain Aztec Spring #8020	T. 7 N., R. 2 E., Section 7 SWSW1/4	Key water source for both livestock and wildlife.	Consider relocation of trough for enhanced livestock distribution.
Ord Mountain Badger Spring #8023	T. 7 N., R. 1 E., Section 31 NWSE1/4	Key water source for both livestock and wildlife.	Locate and fence source.
Ord Mountain Willow Spring #8004	T. 7 N., R. 2 E., Section 19 SENW1/4	Key water source for both livestock and wildlife.	Source is proposed for fencing.

Appendix 3. Existing Range Improvements

Ord Mountain Kane Spring #8003	T. 8 N., R. 3 E., Section 31 NWSE1/4	Key water source for both livestock and wildlife.	Locate and fence source.
Ord Mountain Goat Spring #8017	T. 7 N., R. 1 E., Section 30 SWNW1/4	Key water source for both livestock and wildlife.	Sourced fenced.
Ord Mountain Quill Spring #8002	T. 6 N., R. 1 E., Section 4 NWNW1/4	Requires re-construction.	Sourced fenced.
Ord Mountain Fisher Spring #8015	T. 7 N., R. 2 E., Section 28 NENE1/4	Key water source for both livestock and wildlife.	Consider relocation of trough for enhanced livestock distribution.
Ord Mountain Tyler Valley Well #8201	T. 6 N., R. 2 E., Section 6 NWSE1/4	Key water source for both livestock and wildlife.	Necessary for good livestock distribution.
Ord Mountain Camp Rock Well #8202	T. 7 N., R. 3 E., Section 28 NWSW1/4	Key water source for both livestock and wildlife.	Necessary for good livestock distribution.

Appendix 3. Existing Range Improvements

Ord Mountain West Ord Boundary Fence #8438	T. 7 N., R. 1 E., Section 19	Extended three miles in 1999 (#8484).	Prevents livestock drift off the allotment.
Ord Mountain Ord Mountain Exclusion Fence #8499	T. 7 N., R. 3 E., Section 19	Nine miles of internal fencing used to facilitate the Settlement Agreement with CBD.	Used to exclude livestock from portions of the allotment during seasonal closures for desert tortoise.
Pahrump Valley Cow Pond # 8275	T.23N., R.9E., Section 32	Reservoir located north of Pahrump Dry Lake bed.	Catchment pond for cattle and wildlife.
Pahrump Valley Reservoir #1 #8276	T.22N., R.9E., Section 10	Reservoir located on Pahrump Dry Lake bed.	Catchment pond for cattle and wildlife.
Pahrump Valley Reservoir #2 #8277	T.22N., R.9E., Section 9	Reservoir located on Pahrump Dry Lake bed.	Catchment pond for cattle and wildlife.
Pahrump Valley Reservoir #3 #8278	T.22N., R.9E., Section 27	Reservoir located on Pahrump Dry Lake bed.	Catchment pond for cattle and wildlife.
Pahrump Valley Stewart Valley Well #8210	T.23N., R.8E., Section 2	Inoperative well. Located in designated wilderness.	

Appendix 3. Existing Range Improvements

Round Mountain Round Mountain Spring # 8030	T.3N.,R.3W., Section 12 NENW1/4	Key water source for both livestock and wildlife.	Source is proposed for fencing.
Round Mountain West Round Mtn. Fence #8459	T.3N.,R.3W., Section 7	Western allotment boundary fence.	Prevents livestock drift off the allotment.
Round Mountain North Round Mtn. Fence #8460	T.3N.,R.2W., Section 5	Northern allotment boundary fence.	Prevents livestock drift off the allotment.
Valley Well Valley Well Fence #8461	T.8N.,R.1W., Section 20	Allotment boundary fence.	Prevents livestock drift off the allotment.

APPENDIX 4

1) Utilization shall be light (no more than 40 percent of current year growth) on all key species. No averaging of utilization levels among key species or key areas shall occur. When utilization reaches authorized limits in any key area, cattle shall be removed from that key area. Cattle will not be re-located in those key areas until range conditions are determined to be adequate by the authorized officer to support continued grazing for the remainder of that grazing year.

In order to be consistent with the recovery plan for the desert tortoise, it is important that the components of critical habitat for the desert tortoise remain in the highest quality possible. The lowering of the utilization threshold on key species to 40% should provide for more biomass per plant. This increase in biomass should provide additional, available forage for the desert tortoise and contribute to a increased level of escape and thermal cover, important components of desert tortoise habitat. Most key species identified for the Harper lake Allotment have also been identified as important or keystone plants for the desert tortoise.

2) Water for livestock shall be managed to minimize grazing impacts on Category II desert tortoise habitat. All water developments shall be turned off unless required for livestock or other uses.

The use of developed water sources is an important tool for the management of livestock use in the Mojave Desert. The use of developed water sources in critical habitat for the desert tortoise within the Harper Lake Allotment needs to be managed in such a manner as to minimize impacts to critical habitat for the desert tortoise and to minimize the potential for loss of tortoises due to trampling by livestock. This could mean using water developments to draw cattle away from or reduce numbers in critical habitat during the early spring and fall of the year. These seasons of the year are critical foraging, mating and egg hatching periods for the desert tortoise.

3) A minimum of 350 pounds of ephemeral forage (air dry weight) per acre in Category II desert tortoise habitat must be available and maintained before any additional livestock use, under an ephemeral authorization, will be authorized.

This requirement is the same as the requirement imposed by the CDCA Plan for ephemeral sheep grazing. It is crucial that ample forage is available for desert tortoises during the spring months. This requirement ensures that if additional cattle are authorized under an ephemeral authorization, a base forage production will be maintained.

4) Except for shipping and animal husbandry practices, herding of cattle shall be kept to a minimum in order to minimize the concentration of animals in critical habitat.

This term is meant to discourage any unnecessary herding of cattle or upland concentration of cattle in a particular area of critical habitat within the Harper Lake Allotment. There is a concern that concentrations of cattle could increase the possibility of desert tortoise burrows being impacted, or actual physical impacts to young tortoises.

5) Cattle carcasses found within Category II desert tortoise habitat shall be removed and disposed of in an appropriate manner with the least amount of surface disturbance.

This term is meant to minimize the occurrence of scavengers, particular ravens, in critical habitat for the desert tortoise. Raven predation on young desert tortoises is a contributing factor to the population decline of the species.

6) No new or replacement water sources may be constructed within 0.5 miles of Category II desert tortoise habitat, unless an overall benefit to the desert tortoise would occur. Such benefit(s) will be determined by BLM and subject to concurrence with USFWS through consultation under Section 7 of the Federal Endangered Species Act.

The intent of this condition is to encourage the development of waters outside Category II habitat, if possible, and limit the development of new water sources in critical habitat, unless BLM can show that the development would truly be beneficial (e.g. greatly enhance livestock distribution) to desert tortoise recovery.

7) Construction, operation and maintenance of range improvement activities involving surface disturbance in desert tortoise habitat shall be conducted pursuant to the guidelines, limitation, and constraints outlined in a through j below:

a) Range improvement activities shall be limited to those proposed in the *"Biological Evaluation for Cattle Grazing in the Mojave Desert in the California Desert District"* (December 1991, available in the Barstow Resource Area Office upon request).

b) The construction or re-construction of range improvements shall be conducted between October 15th and March 15th, unless otherwise authorized.

c) Range improvement projects shall be constructed and maintained according to standard environmental guidelines. Construction activities shall occur on previously disturbed sites, whenever possible. Environmental guidelines shall require that no known desert tortoise burrows be destroyed and that the chance of incidental or accidental take of desert tortoise be minimized.

d) Pre-construction desert tortoise surveys of proposed projects sites shall be conducted by a qualified biologist ("qualified biologist" refers to a knowledgeable desert tortoise biologist, approved by BLM).

e) Motorized vehicle access to range improvement projects shall be confined to existing roads, unless otherwise authorized, and limits of all work areas shall be identified by flagging by a qualified biologist to minimize adverse impacts to desert tortoise and its habitat. All workers shall be instructed that their activities are restricted to flagged and cleared areas.

f) A field contact representative (FCR) shall be the lessee, or designated by the lessee, or a contractor who shall have the responsibility for overseeing compliance with the conditions of this decision. The FCR shall remain at the activity site during work periods and shall have the authority and responsibility to halt activities in violation of this decision.

g) Range improvement construction, operation, and maintenance shall be modified as necessary to avoid direct impacts to desert tortoises and their burrows. Potential hazards to desert tortoise that may be created, such as auger holes and trenches, shall not be left open while unattended. These hazards shall be eliminated prior to the work crew leaving the site at the end of each day.

h) If off-road use of any mechanical equipment is required to maintain or construct range improvement projects, the lessee or contractor shall notify the BLM two working days prior to initiating the work. During routine maintenance, vehicles shall be restricted to BLM approved routes of travel.

I) Surface disturbance shall be minimized, and after construction or maintenance is completed, disturbed soil shall be blended and contoured into the surrounding terrain. Construction of new roads shall be minimized. Debris or trash created during construction and maintenance of range improvements shall be removed immediately to limit attraction of predators.

j) If desert tortoises are found above ground within areas to be disturbed by construction or maintenance of range improvements, the FCR shall be informed, activities shall cease and the Authorized Officer shall be notified. Handling of desert tortoise is prohibited except by a biologist so authorized by USFWS.